Panasonic®

Removable Full Front MP3 CD Player/Receiver with CD Changer Control

Lecteur CD MP3/récepteur avec panneau avant amovible et contrôle de changeur CD

Reproductor de CD MP3/Receptor con Controlador de Cambiador de Discos y Frente Complete Desmontable

CQ-DFX572U

Operating Instructions
Manuel d'instructions
Manual de instrucciones

COMPACT disc DIGITAL AUDIO TEXT

MP3

- Please read these instructions carefully before using this product and save this manual for future use.
- Prière de lire ces instructions attentivement avant d'utiliser Ie produit et garder ce manuel pour l'utilisation ultérieure.
- Lea con atención estas instrucciones antes de utilizar el producto y guarde este manual para poderlo consultar en el futuro.

Safety Information

Radio Frequency Interference Statement (Part 15 of the FCC Rules):

Applies only in U.S.A.

This equipment has been tested and found to comply with the limits for a Class B digital, pursuant to Part 15 of the FCC Rules.

- These limits are designed to provide reasonable protection against harmful interference in an automobile installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio reception, which can be determined by turning the equipment off and on, the user is encouraged to consult the dealer or an experience radio technician for help.

FCC Warning:
Any unauthorized changes or modifications to this equipment would void the user's authority to operate this device.

This device complies with Part 15 of the FCC Rules:
Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.

※**For Canada:**
This Class B digital apparatus complies with Canadian ICES-003.

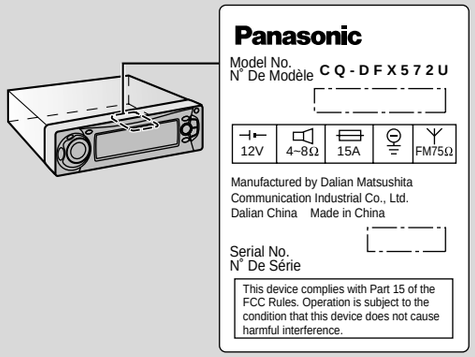
CAUTION:
THIS PRODUCT IS A CLASS I LASER PRODUCT.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.
DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

Laser products:
Wave length: 780 nm
Laser power: No hazardous radiation is emitted with safety protection.

WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, AND ANNOYING INTERFERENCE, USE ONLY THE INCLUDED COMPONENTS.

Label indication and location


Panasonic
Model No.
N° De Modèle CQ-DFX572U
12V
4~8Ω
15A
FM75Ω
Manufactured by Dalian Matsushita Communication Industrial Co., Ltd.
Dalian China Made in China
Serial No.
N° De Série
This device complies with Part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

Find the model number and serial number on either the back or bottom of the unit. Please record them in the space below and retain this booklet as a permanent record of your purchase to help with identification in case of theft.

MODEL NUMBER **CQ-DFX572U**
SERIAL NUMBER _____
DATE PURCHASED _____
FROM _____

Consignes de sécurité

ATTENTION :
CET APPAREIL EST UN PRODUIT LASER DE LA CLASSE I.
L'UTILISATION DE COMMANDES OU RÉGLAGES OU L'EXÉCUTION D'OPÉRATIONS AUTRES QUE CELLES QUI SONT INDIQUÉES DANS CE DOCUMENT PEUVENT RÉSULTER EN UNE EXPOSITION À UN RAYONNEMENT DANGEREUX.
N'OUVREZ PAS LES COUVERCLES ET N'ESSAYEZ PAS D'EFFECTUER VOUS-MÊME DES RÉPARATIONS. ADRESSEZ-VOUS À UN PERSONNEL QUALIFIÉ POUR TOUTE RÉPARATION.

Produits laser:
Longueur d'onde: 780 nm
Puissance du laser: Aucune radiation dangereuse n'est émise avec la protection de sécurité.

MISE EN GARDE:
POUR RÉDUIRE LES RISQUES D'INCENDIE OU D'ÉLECTROCUTION, N'EXPOSEZ PAS CET APPAREIL À LA PLUIE OU À L'HUMIDITÉ.

AFIN DE PRÉVENIR TOUT RISQUE D'INCENDIE OU D'INTERFÉRENCES, UTILISER UNIQUEMENT LES COMPOSANTS FOURNIS.

※**Déclaration d'interférence de fréquences radio (Partie 15 des Règlements FCC):**
Cet appareil numérique de Classe B est conforme au règlement ICES-003 canadien.

Il est recommandé de noter, dans l'espace prévu ci-dessous, les numéros de modèle et de série inscrits soit à l'arrière soit sous le fond de l'appareil, et de conserver ce manuel comme mémorandum de l'achat afin de permettre l'identification de l'appareil en cas de vol.

NUMÉRO DE MODÈLE **CQ-DFX572U**
NUMÉRO DE SÉRIE _____
DATE DE L'ACHAT _____
VENDEUR _____

Información para su seguridad

PRECAUCIÓN:
ÉSTE ES UN PRODUCTO LÁSER DE LA CLASE I.
LA UTILIZACIÓN DE CONTROLES, EL HACER AJUSTES O EL SEGUIR PROCEDIMIENTOS DISTINTOS DE LOS ESPECIFICADOS EN ESTE MANUAL PODRÍA CAUSAR UNA EXPOSICIÓN PELIGROSA A LA RADIACIÓN.
NO ABRA LAS CUBIERTAS NI HAGA REPARACIONES USTED MISMO. SOLICITE LOS TRABAJOS DE SERVICIO AL PERSONAL CALIFICADO.

Productos láser:
Longitud de onda: 780 nm
Potencia láser: Con protección de seguridad no se emite radiación peligrosa.

ADVERTENCIA:
PARA REDUCIR EL RIESGO DE INCENDIOS O SACUDIDAS ELÉCTRICAS, NO EXPONGA ESTE PRODUCTO A LA LLUVIA NI A LA HUMEDAD.

PARA REDUCIR EL RIESGO DE INCENDIOS O SACUDIDAS ELÉCTRICAS, Y PARA EVITAR LAS INTERFERENCIAS MOLESTAS, UTILICE SOLAMENTE LOS COMPONENTES INCLUIDOS.

Busque el número del modelo y el número de serie ya sea en la parte trasera o en el fondo de la unidad. Sírvase anotar dichos números en el espacio siguiente, y mantenga este librete como una anotación permanente de su compra para ayudar en la identificación en el caso de robo.

NÚMERO DEL MODELO **CQ-DFX572U**
NÚMERO DE SERIE _____
FECHA DE COMPRA _____
NOMBRE DE LA TIENDA _____

Panasonic *welcomes you to our ever growing family of electronic product owners. We know that this product will bring you many hours of enjoyment. Our reputation is built on precise electronic and mechanical engineering, manufactured with carefully selected components and assembled by people who take pride in their work. Once you discover the quality, reliability, and value we have built into this product, you too will be proud to be a member of our family.*

❒ Use this Product Safely

When Driving
Keep the volume level low enough to be aware of road and traffic conditions.

When Washing Your Car
Do not expose the product, including the speakers and CDs, to water or excessive moisture. This could cause electrical shorts, fire, or other damage.

When Parked
Parking in direct sunlight can produce very high temperatures inside your car. Give the interior a chance to cool down before switching the unit on.

Use the Proper Power Supply
This product is designed to operate with a 12 V DC, negative ground battery system (the normal system in a North American car).

Disc Mechanism
Do not insert coins or any small objects. Keep screwdrivers and other metallic objects away from the disc mechanism and disc.

Use Authorized Servicenters
Do not attempt to disassemble or adjust this precision product. Please refer to the Servicenter list including with this product for service assistance.

For Installation
This product should be installed in a horizontal position with the front end up at a convenient angle, but not more than 30°.

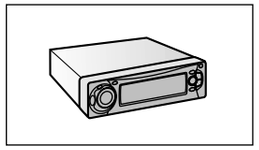
NOTICE:
❒ Language for Manuals of Products Using LCD
This product has a fluorescent lamp that contains a small amount of mercury. It also contains lead in some components. Disposal of these materials may be regulated in your community due to environmental considerations.
For disposal or recycling information please contact your local authorities, or the Electronics Industries Alliance: <http://www.eiae.org.>

❒ Features

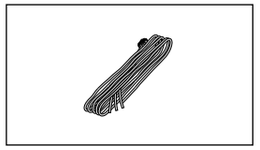
- **A CD-R and a CD-RW that hold CD-DA data can be reproduced.**
- **A CD-ROM, a CD-R and a CD-RW that hold MP3 data can be reproduced.**
- **Title display function**
  CD text (disc and track title) during reproducing a CD that supports CD text.
  MP3 folder and file name
- **Actions that previously could be performed by pressing a single button are now performed through menu selections. See the menu operation explanations for each mode for details.**

❒ Components

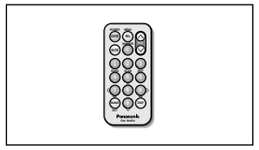
- The numbers in parentheses indicate the accessory quantities.



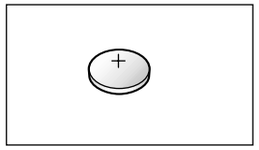
- CD player/receiver (1)



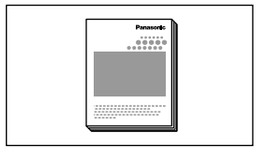
- Power connector (1)



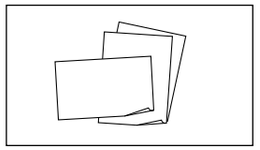
- Remote control unit (1)



- Lithium battery (CR2025) (1)



- Operating instructions (1)



- Warranty card, etc.

- Installation hardware (screws, cords, etc.) (➡ page 52)

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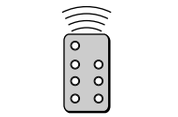

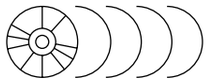

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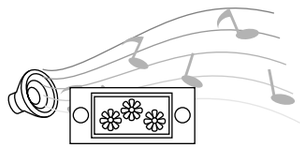
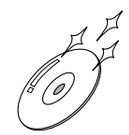
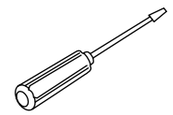
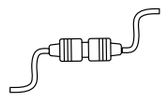


MP3

????!







ENGLISH

Before Reading these Instructions

You can operate this unit by pressing buttons on the main unit and the remote control unit.

■ These instructions describe buttons that are concerned with operations as follows.
Example: Press **[P·SET ˝]** or **[P·SET #]/[˝]** or **[#].**

↓

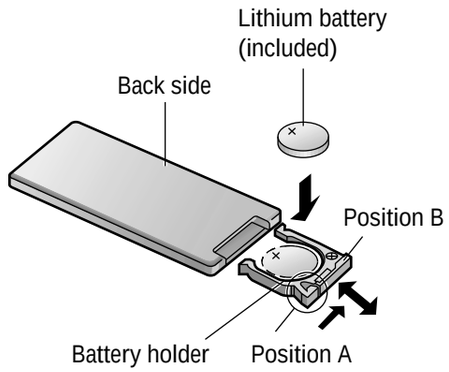
[buttons on the main unit]/[remote control unit]

■ Some operations can be activated by pressing buttons only on main unit or remote control unit. Those cases are described in the instructions.
Example: Press **[OPEN]** on the main unit.

Remote Control Unit Preparation

Battery Installation

① **Remove the battery holder.**
Pull the battery holder by the position B while pushing position A in the direction indicated by the arrow.
② **Install the battery on the battery holder.**
Set a new battery properly with its "+" side facing up as shown in the figure.
③ **Insert the battery holder.**
Push the battery holder back into its original position.



Battery Notes

Remove and dispose of an old battery immediately.
Battery Information:
- Battery type: Panasonic lithium battery (CR2025) (included)
- Battery life: Approximately 6 months with normal use (at room temperature)

Caution:
- Improper use of batteries may cause overheating, an explosion or ignition, resulting in injury or a fire. Battery leakage may damage the unit.

- Do not disassemble or short the battery. Do not throw a battery into a fire.
- Keep batteries away from children to avoid the risk of accidents.
- Be careful to observe proper local disposal rules when you dispose of batteries.

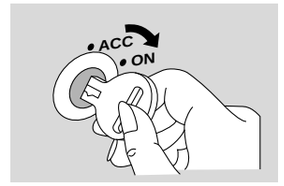
Point the remote control unit at the main unit's sensor.

General

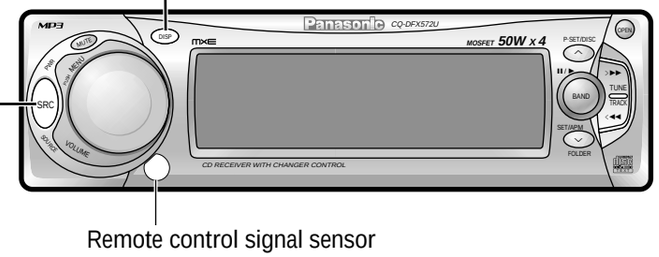
1 Power

Turn the key in the ignition until the accessory indicator lights.
ON: Press **[SRC] (PWR)/[SOURCE] (POWER)**.
OFF: Press **and hold [SRC] (PWR)/[SOURCE] (POWER)** again for more than 1 second.

- After turning off the ignition key, a security message is displayed, and the panel removable alarm that reminds you to take the panel is activated.
(When security function is set to on ➡ page 40)



Note:
- When the power is switched on for the first time, a demonstration message appears on the display.
To cancel this display, press [DISP] (display).



2 Source

Press **[SRC] (SOURCE)/[SOURCE]** to change the source.

Radio
FM2 87.9 ST

↓

CD player
CD 01 0'02 DISC
(When a CD is in the player.)

or

MP3 player
MP3 001-002
(When a MP3 file recorded disc in the player.) (➡page 27)

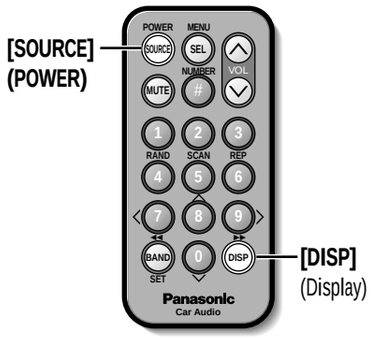
↓

CD changer control
CHC D01-T02
(When a CD changer is connected and magazine is in the changer.) (➡page 32)

↓

AUX-IN setting
AUX <AUX IN>

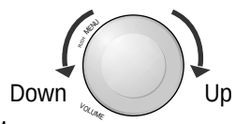
※ The brightness of the screen illustrations in this manual is different from the actual screen brightness.



General (Continued)

Volume

On the main unit:
Turn [VOLUME] dial
Clockwise: Up
Counterclockwise: Down

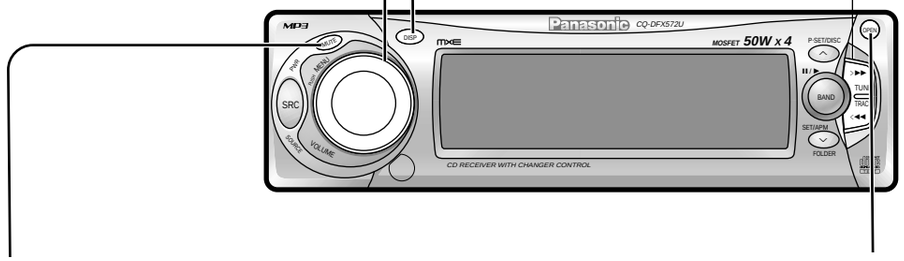


On the remote control unit:
[VOL "]: Up
[VOL #]: Down

Setting range: 0 to 40

Note:
- The sound level for each source is stored in memory.
  (There is one volume setting for AM radio band and one volume setting for FM radio band.)

[TUNE $] [TUNE %]
(Hour/minute)



Mute/Attenuation

ON: Press **[MUTE]**.
OFF: Press again.

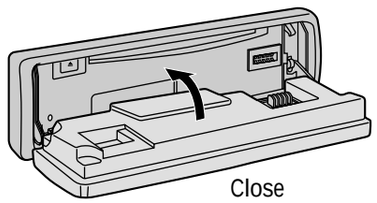
MUTE : No sound.
(MUTE lights.)

ATT : Decrease the volume to 1/10.
(MUTE lights.)

Decreasing volume range depends on setting.
(➡ page 40)

Open/Close the Front Panel

OPEN: Press **[OPEN]** on the front panel.
CLOSE: Raise the panel by hand.



Close

Caution:
- To avoid damaging the front panel, do not push it down or place objects on it while it is open.
- Do not pitch your finger or hand in the front panel.
- Do not insert foreign matter into the disc slot.

Clock Basics

The 12-hour system is used for the clock.

Initial Time

① **Press [DISP] (display).**
ADJUST (Clock display.)

② **Press and hold [DISP] (display) for more than 2 seconds.**
ADJ12:00 ◆HOUR◆ (Hours blink.)

③ **Press [TUNE $] or [TUNE %]/[$] or [%].**
ADJ10:00 ◆HOUR◆ (Hours set.)

④ **Press [DISP] (display).**
ADJ10:00 ◆ MIN ◆ (Minutes blink.)

⑤ **Press [TUNE $] or [TUNE %]/[$] or [%].**
ADJ10:10 ◆ MIN ◆ (Minutes set.)

⑥ **Press [DISP] (display).**
10:10 (End.)

Note:
- Press and hold **[TUNE $]** or **[TUNE %]/**[$] or [%] to change numbers rapidly.

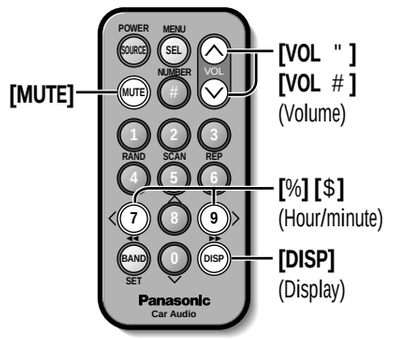
Time Reset

Press and hold **[DISP]** (display) for more than 2 seconds to activate the time setting mode to reset the time. Then, repeat steps ③ to ⑥.

Display Change

Press **[DISP]** (display) to change the display.

When the power is off:
10:10 Clock display
↕
Display off



Radio

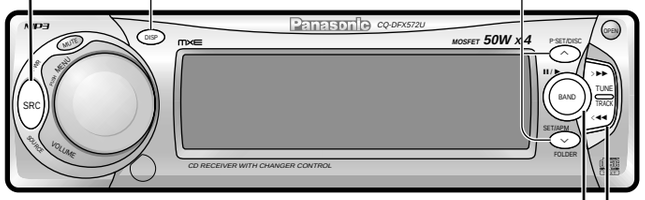
1 Radio Mode

Press **[SRC] (SOURCE)/[SOURCE]** to change to the radio mode.

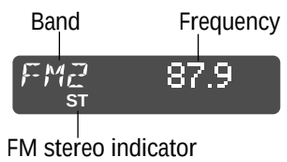
Caution:
- To ensure safety, never attempt to preset stations while you are driving.

[DISP] (Display)

[P·SET "] [P·SET #] (Preset station/select)



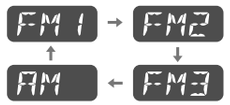
Radio mode display



Note:
- EMPTY : Displays when not have any menu settings. Radio and AUX-IN mode do not have any menu settings.

2 Band

Press **[BAND]** to change the band.

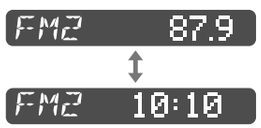


3 Tuning

[TUNE $]/[$]: Up
[TUNE %]/[%]: Down
Press and hold **[TUNE $]** or **[TUNE %]/[$]** or **[%]** for more than 0.5 seconds, then release. Seeking will start.

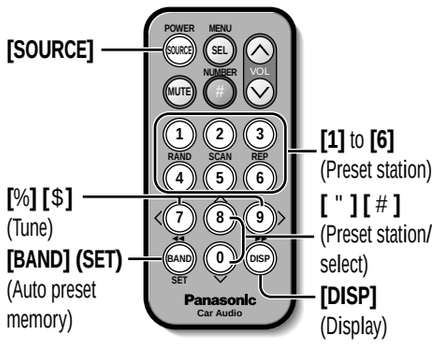
Display Change

Press **[DISP]** (display) to change the display.



Radio mode display (Default)

Clock display



One-Touch Selection of a Preset Station

Up to 6 stations each can be saved in the FM1, FM2, FM3 and AM preset station memories.

Manual Preset Memory

Manually save a station in the preset memory.

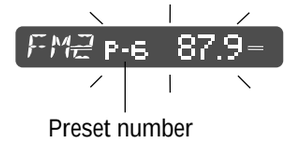
① Select a band and frequency (steps ❶, ❷ and ❸ on the previous page).

② Press and hold **[P·SET "]** or **[P·SET #]/["]** or **[#]** for more than 2 seconds until the preset number blinks.

③ Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to select a preset number (1—6).

④ Press and hold **[P·SET "]** or **[P·SET #]/["]** or **[#]** for more than 2 seconds to memorize.

- The display blinks once, and a receiving station is saved in the memory.



Note:
- Frequency setting can be performed even after selecting a preset number.

Entering numbers directly on the remote control unit

① Select a band and frequency (step ❶, ❷ and ❸ on the previous page).

② Press and hold **[1]** to **[6]** for more than 2 seconds to memorize.

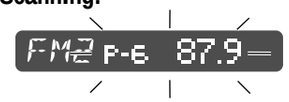
Auto Preset Memory (APM)

Automatically save relatively strong stations in the preset memory.

① Select a band (steps ❶ and ❷ on the previous page).

② Press and hold **[BAND]** (APM) for more than 2 seconds.

Scanning:



- The 6 strongest available stations will be automatically saved in the memory under preset number **1** to **6**.
- Once set, the preset stations are sequentially scanned for 5 seconds each. (Scanning)
- Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** for the broadcast you want to listen to.
  (Press **[1]** to **[6]** on the remote control unit.)

Note:
- New stations are overwritten on existing saved stations after following this procedure.

Preset Station Calling

① Select a band (steps ❶ and ❷ on the previous page).

② Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to select the preset number for tuning in the preset station.
(Press **[1]** to **[6]** on the remote control unit.)

CD Player

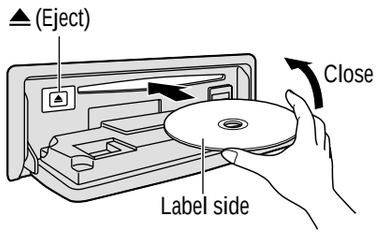
Disc Insert and Playback

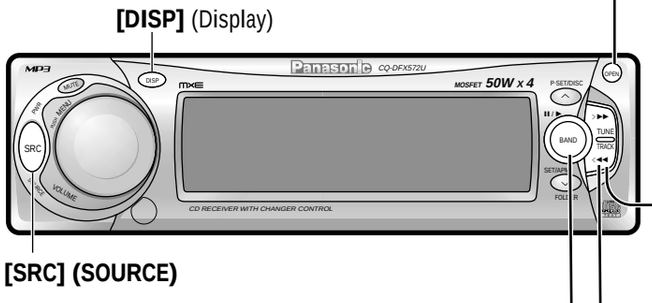
1 Open the front panel.

Press **[OPEN]** on the front panel.

2 Insert the disc.

The display changes as shown below.
Playback will start automatically after the unit recognized the loaded disc as an ordinary music CD. (When a CD-R or CD-RW which has CD-DA formatted data as the same as an ordinary music CD is loaded, this unit recognizes it as an ordinary music CD.)
Close the front panel manually.

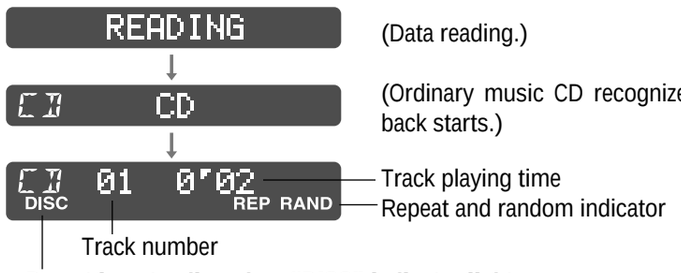




Note:

- Loading a disc when the power is off allows the power to be turned on.
- It may take some time to distinguish CD-DA and MP3 before playback starts.
- The title information can be displayed. (➡ page 23)

CD player mode display



- **Do not insert a disc when "DISC" indicator lights.**
- Lights when the disc is loaded/played.

Stop and Disc Eject

① Press **[OPEN]** on the front panel.
② Press **[▲]** (eject) to stop CD play and eject the disc.

Note:

- Ejecting the disc when the unit is in the CD player mode allows the power to be turned off.

Caution:

- **Only 5″ (12 cm) CD, CD-DA data recorded CD-R and CD-RW discs, MP3 data recorded CD media (CD-ROM, CD-R, CD-RW) are available for this unit.**
- If a disc contains both CD-DA and MP3 data, **only one type of data will be played back**. For example, if the disc starts with CD-DA data, it will be recognized as an ordinary music CD, if it starts with an MP3 file, it will be recognized as an MP3.
- Refer to page 51 about notes on CD-Rs/RWs.
- Refer to page 42 about notes on MP3.
- To avoid damaging the front panel, do not push it down or place objects on it while it is open.
- Do not use irregular shaped discs.
- Do not use discs that have a seal or label attached.
- Do not insert foreign matter into the disc slot.
- Do not watch the scroll display while driving a car. (➡ page 24)

Listening to a CD

CD Player Mode

(When CD is in the player)

Press **[SRC] (SOURCE)/[SOURCE]** to change to CD player mode.
Playback will start automatically.

Track Selection

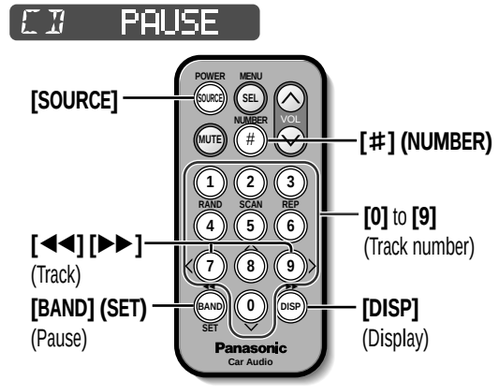
[TRACK ▶▶]/[▶▶]: Advance to the next track.
[TRACK ◀◀]/[◀◀]: Back to beginning of the current track.
Back to previous track. (Press twice.)

Track Search

Press and hold.
[TRACK ▶▶]/[▶▶]: Fast forward
[TRACK ◀◀]/[◀◀]: Fast backward
Release to resume the regular play.

Pause

Press **[BAND] (II/▶)**.
Press **[BAND] (II/▶)** again to cancel.



Direct Track Selection

Only for the remote control unit

Example: track number 10

① Press **[#] (NUMBER)**.
② Press **[1] [0]**.

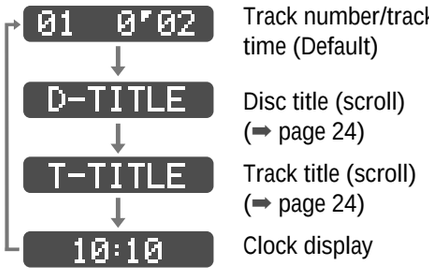
③ Press **[BAND] (SET)** to set.
The corresponding track starts playing.

Note:

- Press **[DISP]** (display) or **[#] (NUMBER)** to return to the regular mode.

Display Change

Press **[DISP]** (display) to change the display.



Note:

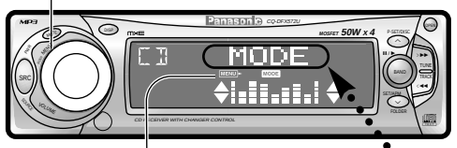
- The display shows title information only when a disc which has CD text information is loaded. (Up to 62 letters can be displayed when scrolling. Some letters are not serviceable.)
- NO TITLE : Displays when there is no title information.

CD Player (Continued)

Menu Setting on CD Player Mode

1 Menu

[MENU]

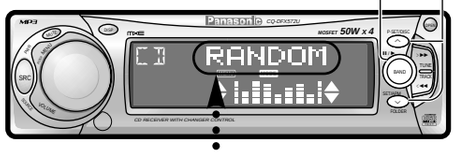


MENU : Lights during menu play setting.

MODE : Lights during **CD player menu mode.**

2 Submenu

① **[P·SET ⌃]** **[P·SET ⌄]** (Submenu)
② **[BAND]** (Setting)



3 Setting

[MENU] [DISP] (Display)

[P·SET ⌃] **[P·SET ⌄]** (Setting)

Note:
- Press **[MENU], [DISP]** (display) to return to the regular mode.
- There is no display change when directly setting on the remote control unit.
- **REP**: Lights during repeat play.
  RAND: Lights during random play.

---

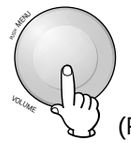
1 Menu

Random Play
Default: RAND OFF

Repeat Play
Default: REP OFF

Title Scroll
Default: SCRL ON

Press **[MENU]/[SEL] (MENU)** during CD playing to display "MODE".



(Press.)

2 Submenu

① Press **[P·SET ⌃]** or **[P·SET ⌄]/[⌃]** or **[#]** to select "RANDOM".
② Press **[BAND] (SET)** to set.

① Press **[P·SET ⌃]** or **[P·SET ⌄]/[⌃]** or **[#]** to select "REPEAT".
② Press **[BAND] (SET)** to set.

① Press **[P·SET ⌃]** or **[P·SET ⌄]/[⌃]** or **[#]** to select "SCROLL".
② Press **[BAND] (SET)** to set.

3 Setting

Press **[P·SET ⌃]** or **[P·SET ⌄]/[⌃]** or **[#]** to change setting.

RAND ON : All the available tracks plays in a random sequence.

RAND OFF : Cancel

Press **[P·SET ⌃]** or **[P·SET ⌄]/[⌃]** or **[#]** to change setting.

REP ON : Repeat the current track.

REP OFF : Cancel

Press **[P·SET ⌃]** or **[P·SET ⌄]/[⌃]** or **[#]** to change setting.

SCRL ON : Continuous scroll.

SCRL OFF : Scroll stops after a circle scroll.
Press and hold **[DISP]** (display) for more than 2 seconds to have an another circle scroll when the title information is displayed.

Note:
- The display shows title information only when a disc which has CD text information is loaded. (Up to 62 letters can be displayed when scrolling. Some letters are not serviceable.)

Only for the remote control unit

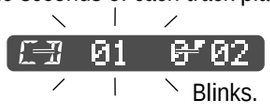
When the menu is not displayed

Scan Play
Default: Off

Press **[5] (SCAN)** to change setting.

On: The first 10 seconds of each track plays in sequence.

Off: Cancel

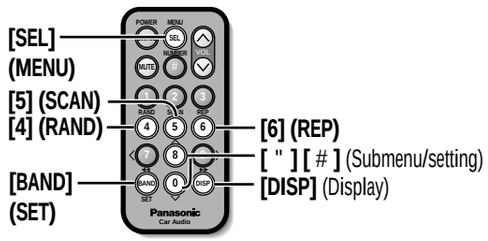


Blinks.

Direct setting on the remote control unit when the menu is not displayed

Press **[4] (RAND)** to change setting.

Press **[6] (REP)** to change setting.

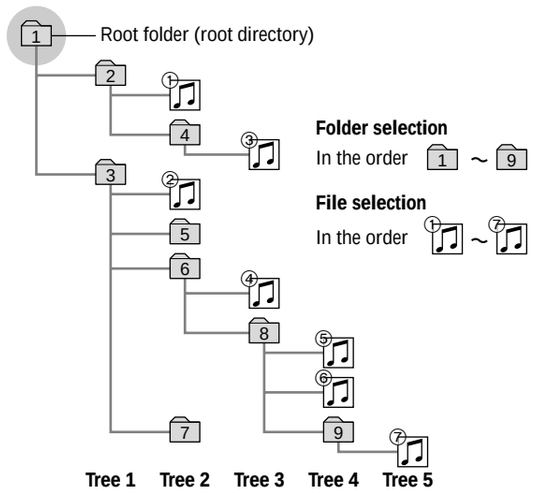


MP3 Player

Caution:
- **Only 5″ (12 cm) CD, CD-DA data recorded CD-R and CD-RW discs, MP3 data recorded CD media (CD-ROM, CD-R, CD-RW) are available for this unit.**
- If a disc contains both CD-DA and MP3 data, **only one type of data will be played back**. For example, if the disc starts with CD-DA data, it will be recognized as an ordinary music CD, if it starts with an MP3 file, it will be recognized as an MP3.
- Refer to page 51 about notes on CD-Rs/RWs.
- Refer to page 42 about notes on MP3.
- To avoid damaging the front panel, do not push it down or place objects on it while it is open.
- Do not use irregular shaped discs.
- Do not use discs that have a seal or label attached.
- Do not insert foreign matter into the disc slot.
- **Never attempt to play a file that is not in the MP3 format by changing its file name extension to ".mp3". This may not only produce noise from the speakers and speaker damage, but can damage your hearing.**
- Do not watch the scroll display while driving a car. (➡ page 30)

Note:
- When you insert a CD media containing MP3 files (CD-ROM, CD-R, CD-RW) into the slot, this player will automatically enter MP3 mode and start playing MP3 data on the disc.
- A directory is interpreted as a folder in these instructions.

Folder Selection Order/MP3 File Playback Order (Example)



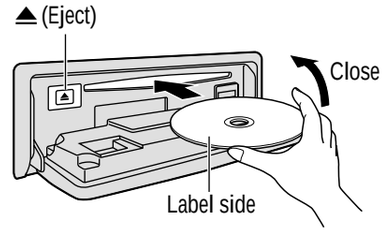
Note:
- This unit counts the number of folders irrespective of the presence or absence of MP3 file. (Example: there is no MP3 file in a root folder as shown in the drawing, but a folder number "001" is given. In fact, there is no MP3 file to reproduce. Therefore, the next folder is automatically selected.)
- The writing software sometimes changes the order of folders and files on a disc, so the order may differ from what you specified. For details refer to the user manual of your writing software.
- If you record too many folders or files other than MP3s onto a disc, it may take some time before playback starts, and you may have difficulties using fast forward and fast reverse.
- Playback order varies with players even if the same disc is loaded.

Not all CD media containing MP3 data will play back normally. For details see "Notes on MP3". (➡ page 42)

Disc Insert and Playback

1 Open the front panel.

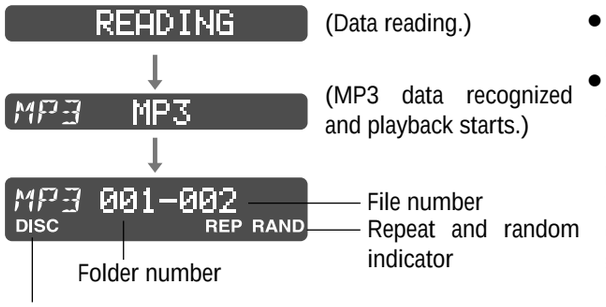
Press **[OPEN]** on the front panel.



2 Insert the disc.

The display changes as shown below.
Playback will start automatically when an MP3 file has been recognized on the disc.
Close the front panel manually.

MP3 player mode display



- **Do not insert a disc when "DISC" indicator lights.**
- Lights when the disc is loaded/played.

Note:
- Loading a disc when the power is off allows the power to be turned on.
- It may take some time to distinguish CD-DA and MP3 before playback starts.
- If you record too many folders and MP3 files onto a disc, it may take some time before playback starts.
- The title information can be displayed. (➡ page 29)
- If the ignition switch of your car is turned to OFF during playback, there may be a time lag between the file playing time on the display and the actual playing time. In addition, playback may start from the beginning of the music when using VBR (Variable Bit Rate) of a MP3 file in the same situation.

Stop and Disc Eject

① Press **[OPEN]** on the front panel.

② Press **[▲]** (eject) to stop MP3 play and eject the disc.

Note:
- Ejecting the disc when the unit is in the MP3 player mode allows the power to be turned off.

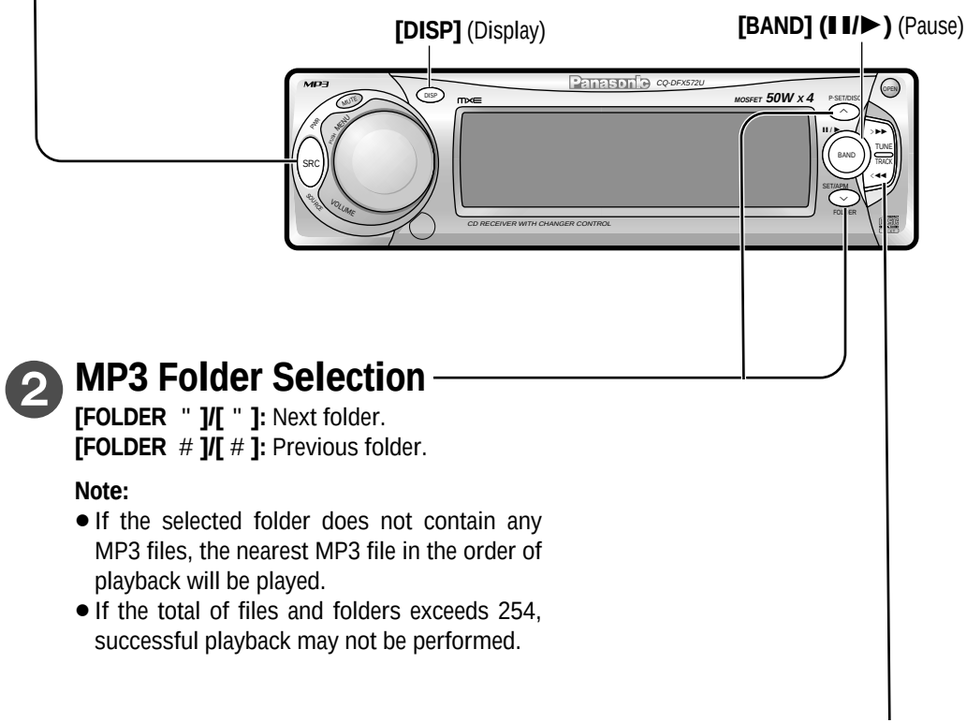
MP3 Player (Continued)

Listening to a MP3 Data

1 MP3 Player Mode

(When a MP3 files recorded disc is in the player)

Press **[SRC] (SOURCE)/[SOURCE]** to change to MP3 player mode.
Playback will start automatically.



2 MP3 Folder Selection

[FOLDER "]/["]: Next folder.
[FOLDER #]/[#]: Previous folder.

Note:

- If the selected folder does not contain any MP3 files, the nearest MP3 file in the order of playback will be played.
- If the total of files and folders exceeds 254, successful playback may not be performed.

3 MP3 File Selection

[TRACK ►►]/[►►]: Advance to the next file.
[TRACK ◄◄]/[◄◄]: Back to beginning of the current MP3 file.
Back to previous MP3 file. (Press twice.)

MP3 In-File Search

Press and hold.
[TRACK ►►]/[►►]: Fast forward
[TRACK ◄◄]/[◄◄]: Fast backward
Release to resume the regular MP3 play.

Pause

Press **[BAND] (❚❚/►)**.
Press **[BAND] (❚❚/►)** again to cancel.

Direct MP3 Folder Selection

Only for the remote control unit

Example: folder number 10

① Press **[#] (NUMBER)**.

② Press **[1] [0]**.

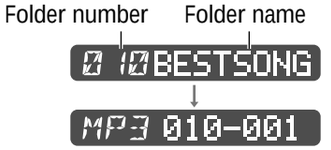
③ Press **[BAND] (SET)** to set.
The first file of the corresponding folder starts playing.

Direct MP3 Folder Selection from Folder Name

Only for the remote control unit

① Press and hold **[#] (NUMBER)** for more than 2 seconds.

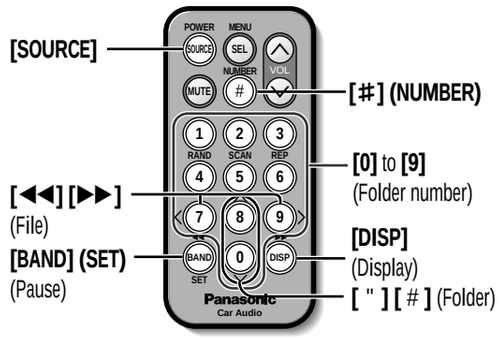
② Press **["]** or **[#]** to select folder name.



③ Press **[BAND] (SET)** to set.
The first file of the corresponding folder starts playing.

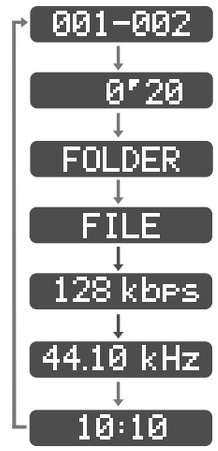
Note:

- If there is no file in the specified folder, error message “E4” appears. Select another folder which contains MP3 files.
- Press **[DISP]** (display) or **[#] (NUMBER)** to return to the regular mode.



Display Change

Press **[DISP]** (display) to change the display.



Note:

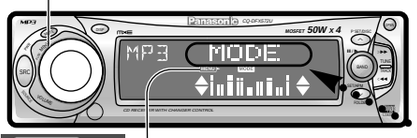
- When VBR (Variable Bit Rate) MP3 file is played back, the file playing time may not be correct. When the reproduction of VBR MP3 file is finished, it will count again.
- Running a file in fast forward or fast reverse may cause an error in the file playing time. The file playing time display will return to normal when you play another file.
- NO NAME : Displays when there is no file/folder name.
- The bit rate value changes when variable bit rate (VBR) data is played.
- MP3 folder and file names can be displayed. Displayable character number varies with file systems. Refer to “Supported File Systems and File Names” in “Notes on MP3” for details. (➡ page 43)
- The “.mp3” file name extension is not displayed.
- When playing a Tree 1 file, the folder name is displayed with the word “ROOT” (root folder).
- Characters that the player cannot display are shown as an asterisk.

MP3 Player (Continued)

Menu Setting on MP3 Player Mode

1 Menu

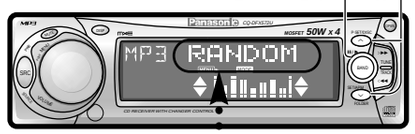
[MENU]



MENU ► : Lights during menu play setting.
MODE : Lights during **MP3 player menu mode.**

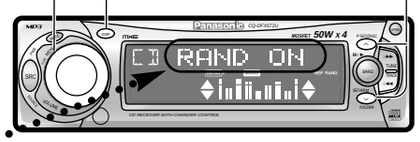
2 Submenu

① **[P·SET #] [P·SET "]** (Submenu)
② **[BAND]** (Setting)



3 Setting

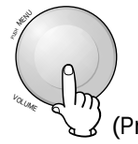
[MENU] **[P·SET #] [P·SET "]** (Setting)
[DISP] (Display)



Note:
- Press **[MENU], [DISP]** (display) to return to the regular mode.
- There is no display change when directly setting on the remote control unit.
- **RAND**: Lights during random play.
  Blinks during folder random play
  REP: Lights during repeat play.
  Blinks during folder repeat play

1 Menu	2 Submenu	3 Setting
Random Play Default: RAND OFF	① Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to select "RANDOM". ② Press **[BAND] (SET)** to set.	Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to change setting. **RAND ON** : All the MP3 files on all folders play in a random sequence. **RAND OFF** : Cancel
Folder Random Play Default: F-RND OFF	① Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to select "F-RANDOM". ② Press **[BAND] (SET)** to set.	Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to change setting. **F-RND ON** : All the available MP3 files on the current folder play in a random sequence. **F-RND OFF** : Cancel
Repeat Play Default: REP OFF	① Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to select "REPEAT". ② Press **[BAND] (SET)** to set.	Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to change setting. **REP ON** : Repeat the current MP3 file. **REP OFF** : Cancel
Folder Repeat Play Default: F-REP OFF	① Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to select "F-REPEAT". ② Press **[BAND] (SET)** to set.	Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to change setting. **F-REP ON** : Repeat the current folder. **F-REP OFF** : Cancel
Name Scroll Default: SCRL ON	① Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to select "SCROLL". ② Press **[BAND] (SET)** to set.	Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to change setting. **SCRL ON** : Continuous scroll. **SCRL OFF** : Scroll stops after a circle scroll. Press and hold **[DISP]** (display) for more than 2 seconds to have an another circle scroll when name information is displayed.

Press **[MENU]/[SEL] (MENU)** during MP3 player playing to display "MODE".



(Press.)

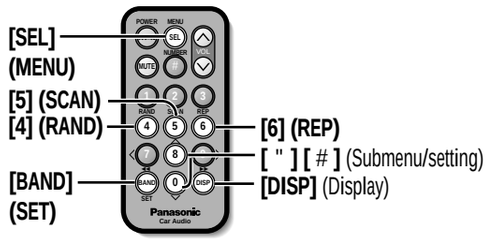
Direct setting on the remote control unit when the menu is not displayed

Press **[4] (RAND)** to change setting.	
Press and hold **[4] (RAND)** for more than 2 seconds to change setting.	
Press **[6] (REP)** to change setting.	
Press and hold **[6] (REP)** for more than 2 seconds to change setting.	

Only for the remote control unit

When the menu is not displayed

Scan Play Default: Off	Press **[5] (SCAN)** to change setting.	On: The first 10 seconds of each MP3 file on all folder plays in sequence. Off: Cancel
Folder Scan Play Default: Off	Press and hold **[5] (SCAN)** for more than 2 seconds to change setting.	On: From the next folder, the first 10 seconds of the first MP3 file on each folder plays in sequence. Off: Cancel



CD Changer Control

CD changer functions are designed for optional Panasonic CD changer unit.

Preparation:

- Connect the CD changer, and load a magazine (disc).

Note:

- Loading a magazine when the power is off allows the power to be turned on.
- Ejecting the magazine when the unit is in the CD changer mode allows the power to be turned off.
- This unit does not support CD-ROM, CD-R, or CD-RW playback through the CD changer. Use the CD changer to listen to normal music CD exclusively.
- This unit does not support CD text display of the CD changer control.
- **Pausing does not function in the CD changer mode.**

1 CD Changer Mode

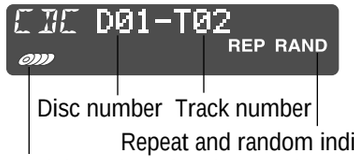
(When a CD changer is connected and a magazine is in the changer.)

Press **[SRC] (SOURCE)/[SOURCE]** to change to CD changer mode.
Playback starts automatically.

Note:

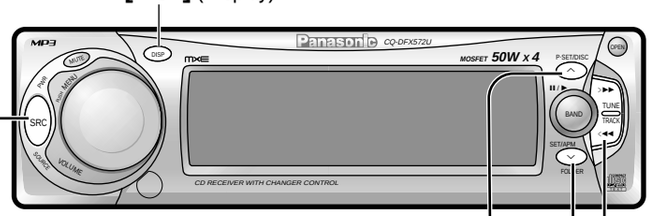
- NO DISC : Load a magazine with CDs.
- EJECT : Magazine is ejected in the CD changer mode.

CD changer mode display



- Lights when the changer (magazine) is connected.
- Lights when the disc is played.

[DISP] (Display)



2 Disc Selection

[DISC "]/["]: Next disc.
[DISC #]/[#]: Previous disc.

3 Track Selection

[TRACK ▶▶]/[▶▶]: Advance to the next track.
[TRACK ◀◀]/[◀◀]: Back to the beginning of the current track.
Back to the previous track. (Press twice.)

Track Search

Press and hold.
[TRACK ▶▶]/[▶▶]: Fast forward
[TRACK ◀◀]/[◀◀]: Fast backward
Release to resume the regular play.

CDC 0'20

Direct Disc Selection

Only for the remote control unit

Example: disc number 10

① Press **[#] (NUMBER)**.

② Press **[1] [0]**.

CDC DISC __
↓
CDC DISC 10
↓
CDC D10-T01

③ Press **[BAND] (SET)** to set.
The first track of the corresponding disc starts playing.

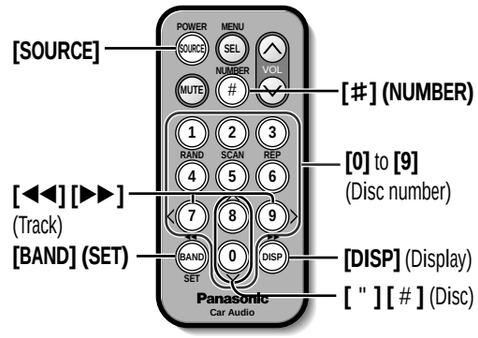
Note:

- Press **[DISP]** (display) or **[#] (NUMBER)** to return to the regular mode.

Display Change

Press **[DISP]** (display) to change the display.

D01-T02 Disc/track number (Default)
↓
0'20 Playing time
↓
10:10 Clock display

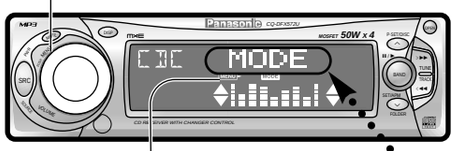


CD Changer Control (Continued)

Menu Setting on CD Changer Mode

1 Menu

[MENU]

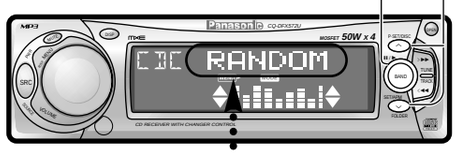


MENU : Lights during menu play setting.

MODE : Lights during **CD changer menu mode.**

2 Submenu

① **[P·SET ＃] [P·SET "]** (Submenu)
② **[BAND]** (Setting)



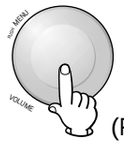
3 Setting

[MENU] **[P·SET ＃] [P·SET "]** (Setting)
[DISP] (Display)

Note:
- Press **[MENU], [DISP]** (display) to return to the regular mode.
- There is no display change when directly setting on the remote control unit.
- REP: Lights during repeat play. Blinks during disc repeat play
  RAND: Lights during random play. Blinks during disc random play

1 Menu	2 Submenu	3 Setting
Random Play Default: RAND OFF	① Press **[P·SET "]** or **[P·SET ＃]/["]** or **[＃]** to select “RANDOM”. ② Press **[BAND] (SET)** to set.	Press **[P·SET "]** or **[P·SET ＃]/["]** or **[＃]** to change setting. RAND ON : All the available tracks on all discs in the magazine plays in a random sequence. RAND OFF : Cancel
Disc Random Play Default: D-RND OFF	① Press **[P·SET "]** or **[P·SET ＃]/["]** or **[＃]** to select “D-RANDOM”. ② Press **[BAND] (SET)** to set.	Press **[P·SET "]** or **[P·SET ＃]/["]** or **[＃]** to change setting. D-RND ON : All the available tracks on the current disc plays in a random sequence. D-RND OFF : Cancel
Repeat Play Default: REP OFF	① Press **[P·SET "]** or **[P·SET ＃]/["]** or **[＃]** to select “REPEAT”. ② Press **[BAND] (SET)** to set.	Press **[P·SET "]** or **[P·SET ＃]/["]** or **[＃]** to change setting. REP ON : Repeat the current track. REP OFF : Cancel
Disc Repeat Play Default: D-REP OFF	① Press **[P·SET "]** or **[P·SET ＃]/["]** or **[＃]** to select “D-REPEAT”. ② Press **[BAND] (SET)** to set.	Press **[P·SET "]** or **[P·SET ＃]/["]** or **[＃]** to change setting. D-REP ON : Repeat the current disc. D-REP OFF : Cancel

Press **[MENU]/[SEL] (MENU)** during CD changer playing to display “MODE”.



(Press.)

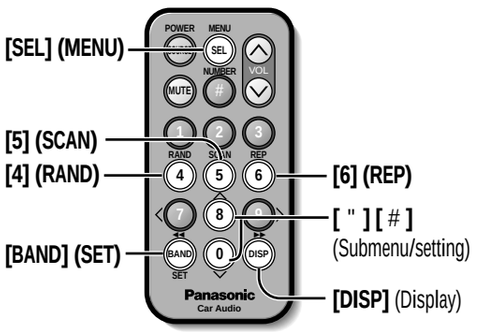
Direct setting on the remote control unit when the menu is not displayed

Press **[4] (RAND)** to change setting.
Press and hold **[4] (RAND)** for more than 2 seconds to change setting.
Press **[6] (REP)** to change setting.
Press and hold **[6] (REP)** for more than 2 seconds to change setting.

Only for the remote control unit

When the menu is not displayed

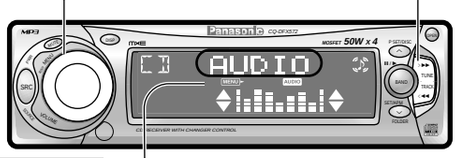
Scan Play Default: Off	Press **[5] (SCAN)** to change setting.	On: The first 10 seconds of each track on all discs plays in sequence. Off: Cancel
Disc Scan Play Default: Off	Press and hold **[5] (SCAN)** for more than 2 seconds to change setting.	On: The first 10 seconds of the first track of all the discs plays in sequence. Off: Cancel



Audio Settings [AUDIO]

1 Menu

① **[MENU]** ② **[TUNE %] [TUNE $]** (Menu)



MENU : Lights during menu play setting.

AUDIO : Lights during AUDIO mode.

2 Submenu

① **[P·SET #] [P·SET "]** (Submenu)
② **[BAND]** (Setting)

3 Setting

[MENU] **[P·SET #] [P·SET "]** (Setting)
[DISP] (Display)

Note:
- Press **[MENU], [DISP]** (display) to return to the regular mode.

S·HDB (Super High Definition Bass)

Especially for rock music, the bass-sound will be more powerful.

Default: S·HDB OFF
Setting range: S·HDB OFF, BOOM, TIGHT

Bass and Treble

You can adjust the bass and treble sound.

Default: BAS (Bass) 0 dB
TRE (Treble) 0 dB
Setting range: −12 dB to +12 dB (by 2 dB)

Balance and Fader

You can adjust the sound balance among the front, rear, right and left speakers.

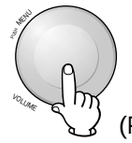
Default: BAL (Balance) CNT (Center)
FAD (Fader) CNT (Center)
Setting range: 15 levels each

Subwoofer Level

You can change the subwoofer volume level.
Default: 0 dB
Setting range: MUTE (subwoofer mute)
−6 dB to +6 dB (by 2 dB)

1 Menu

① Press **[MENU]/[SEL] (MENU)**.



(Press.)

② Press **[TUNE $]** or **[TUNE %]/[$]** or **[%]** to select “AUDIO”.

2 Submenu

① Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to select “S·HDB”.
② Press **[BAND] (SET)** to set.

① Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to select “BASS”.
② Press **[BAND] (SET)** to set.

① Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to select “TREBLE”.
② Press **[BAND] (SET)** to set.

① Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to select “BALANCE”.
② Press **[BAND] (SET)** to set.

① Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to select “FADER”.
② Press **[BAND] (SET)** to set.

① Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to select “SUB-W”.
② Press **[BAND] (SET)** to set.

3 Setting

Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to change setting.

BOOM : The bass sounds of the speakers are strongly emphasized. “ (” lights.

TIGHT : The bass sounds of the speakers are moderately emphasized. (The sounds of the subwoofer can be heard clearly.) “ (” lights.

SHDB OFF : S·HDB is non-active.

Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to adjust the level.

[P·SET "]/["]: Increases the bass.
[P·SET #]/[#]: Decreases the bass.

BAS 0dB

Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to adjust the level.

[P·SET "]/["]: Increases the treble.
[P·SET #]/[#]: Decreases the treble.

TRE 0dB

Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to adjust the level.

[P·SET "]/["]: Right enhanced.
[P·SET #]/[#]: Left enhanced.

BAL CNT

Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to adjust the level.

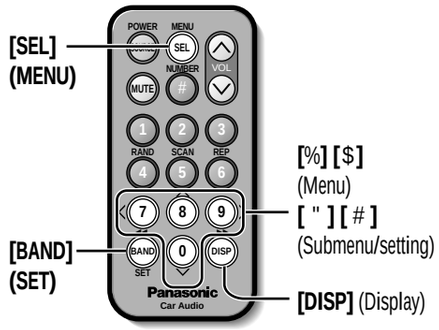
[P·SET "]/["]: Front enhanced.
[P·SET #]/[#]: Rear enhanced.

FAD CNT

Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to adjust the level.

[P·SET "]/["]: Increases the level.
[P·SET #]/[#]: Decreases the level.

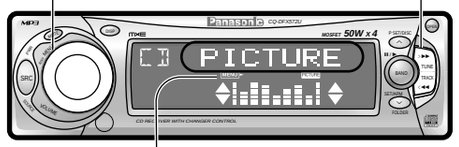
LEV 0dB



Picture (Display) Settings [PICTURE]

1 Menu

① **[MENU]** ② **[TUNE $] [TUNE %]** (Menu)

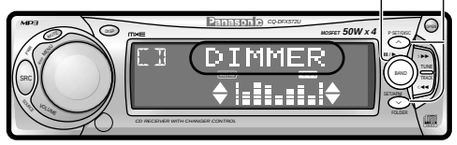


MENU : Lights during menu play setting.

PICTURE : Lights during PICTURE mode.

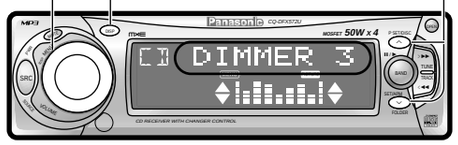
2 Submenu

① **[P·SET #] [P·SET "]** (Submenu)
② **[BAND]** (Setting)



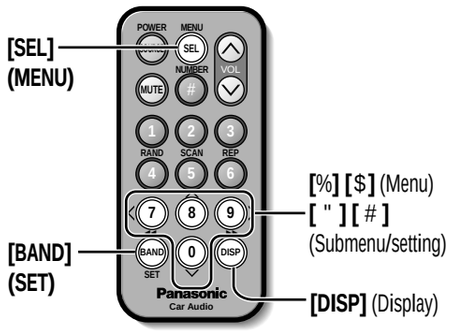
3 Setting

[MENU] **[P·SET #] [P·SET "]** (Setting)
[DISP] (Display)



Note:
- Press **[MENU], [DISP]** (display) to return to the regular mode.

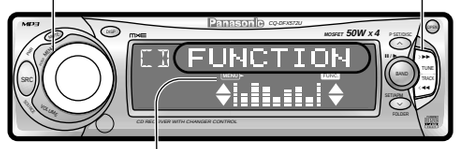
	1 Menu	2 Submenu	3 Setting
Dimmer (display brightness setting range) Default: DIMMER 3 Setting range: DIMMER 1 to 3		① Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to select “DIMMER”. ② Press **[BAND] (SET)** to set.	Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to change setting. DIMMER 3 : Bright DIMMER 2 : Medium DIMMER 1 : Dark
Spectrum Analyzer (S·A) Display Pattern Default: PATTERN 1 Variety: 5 types, S·A off	① Press **[MENU]/[SEL] (MENU)**. (Press.) ② Press **[TUNE $]** or **[TUNE %]/[$]** or **[%]** to select “PICTURE”.	① Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to select “S·A”. ② Press **[BAND] (SET)** to set.	Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to change setting. PATTERN1 : Pattern 1 PATTERN2 : Pattern 2 PATTERN3 : Pattern 3 PATTERN4 : Pattern 4 PATTERN5 : Pattern 5 PATT OFF : S·A off
Contrast Allows you to adjust the display contrasts for better viewing. Default: CONT 3 Setting range: CONT 1 to CONT 5		① Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to select “CONTRAST”. ② Press **[BAND] (SET)** to set.	Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to change setting. CONT 5 CONT 4 CONT 3 CONT 2 CONT 1 Level up ↕ Level down
Display Setting You can set the black display even when the power is on. Default: DISP ON		① Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to select “DISPLAY”. ② Press **[BAND] (SET)** to set.	Press **[P·SET "]** or **[P·SET #]/["]** or **[#]** to change setting. DISP ON : Regular display DISP OFF : Display off (black display) To return to the regular display: Select “DISP ON”.



Function Settings [FUNCTION]

1 Menu

① **[MENU]** ② **[TUNE ＄] [TUNE ％]** (Menu)

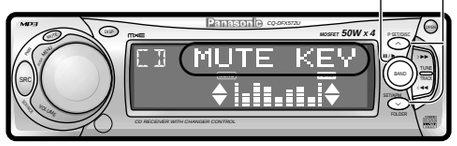


MENU ► : Lights during menu play setting.

FUNC. : Lights during FUNCTION mode.

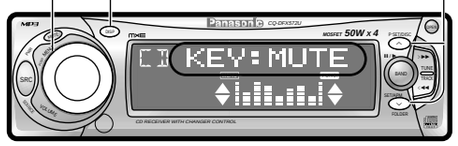
2 Submenu

① **[P·SET ＃] [P·SET "]** (Submenu)
② **[BAND]** (Setting)



3 Setting

[MENU] **[P·SET ＃] [P·SET "]** (Setting)
[DISP] (Display)



Note:
- Press **[MENU], [DISP]** (display) to return to the regular mode.

Mute/Attenuation

You can select how much to lower the volume when **[MUTE]** is pressed.

Default: MUTE

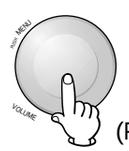
Security Function

The security indicator (LED) blinks when the removable face plate is removed from the unit.

Default: SLED ON

1 Menu

① Press **[MENU]/[SEL] (MENU)**.



(Press.)

② Press **[TUNE ＄]** or **[TUNE ％]/[＄]** or **[％]** to select “FUNCTION”.

2 Submenu

① Press **[P·SET "]** or **[P·SET ＃]/["]** or **[＃]** to select “MUTE KEY”.
② Press **[BAND] (SET)** to set.

① Press **[P·SET "]** or **[P·SET ＃]/["]** or **[＃]** to select “SECURITY”.
② Press **[BAND] (SET)** to set.

3 Setting

Press **[P·SET "]** or **[P·SET ＃]/["]** or **[＃]** to change setting.

KEY:MUTE : No sound.

KEY:ATT : Decrease the volume to 1/10. (Attenuation)

Press **[P·SET "]** or **[P·SET ＃]/["]** or **[＃]** to change setting.

SLED ON : Security function is active.

SLED OFF : Security function is non-active.

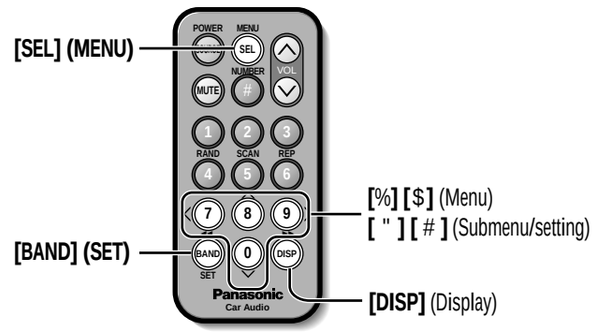
Security Function

When the key in the ignition is turned OFF.
- Security message will be active.

PANEL!

- The panel removable alarm will be active.

When the removable face plate is removed.
- The security indicator blinks. (➡ page 57)



Notes on MP3

This player allows you to play MP3 files recorded on CD-ROMs, CD-Rs (recordable) and CD-RWs (rewritable).

What is MP3?

MP3, short for MPEG Audio Layer-3, is a standard for compressing digital video data adopted for video CDs and similar media. It is one of the audio compression schemes covered by MPEG's (Motion Picture Experts Group) digital audio compression standards. What it does is reduce the number of bytes in a song without hurting the sound quality by means such as eliminating big sound waves within in the sound range that is imperceptible to the human ear. This compression allows you to reduce the contents of a conventional music CD by a factor of around 10. This means that you can record the contents of 10 music CDs on a single CD-R or CD-RW. (The figures refer to data recorded on a 650 MB CD-R or CD-RW at a fixed bit rate of 128 kbps and a sampling frequency of 44.1 kHz.)

Points to Remember When Recording an MP3 Disc

❒ Converting (encoding) audio data to an MP3 file

- **It is recommended to set the bit rate to "128 kbps or more" and "Fixed".**
- Bit rate 8 kbps of MPEG-2 and sampling frequency 16 kHz of MPEG-2 cannot be reproduced.
- If set to VBR (Variable Bit Rate), the file playing time may not be displayed correctly.
- The playback sound quality differs depending on the encoding software and the bit rate. For details refer to the user manual of your encoding software.

❒ Recording MP3 files on CD-R/RW

- **Do not record files other than MP3s or unnecessary folders on a disc.**
  If too many folders or files other than MP3s are recorded on a disc, it may take some time before playback starts, and you may have difficulties using fast forward and fast reverse.
- **Use ISO 9660 file system (Extension of the ISO 9660 file systems are included.) (➡ page 43). APPLE HFS file system is not supported.**
  If they do not conform to ISO 9660 file system, the file may not play normally, or the file or folder names may not be displayed correctly.
- **Make sure to add the ".mp3" extension to each MP3 file name.**
  A file with a different file name extension or none at all will not play.
- **Although Multi session recording is supported, the use of Disc-at-Once is recommended.**
  Make sure to close the session when you finished recording on a disc.
- **ID3Tags are not supported.**
  The song information is stored but not displayed. Discs written with ID3 Ver. 2 may not work properly.
- **Packet writing software is not supported.**
- **A playlist function is not supported.**
  Record files and folders in the order in which you want them to be played. Some writing software lets you specify the recording order by adding a prefix in the range of "01"—"09", etc. to the file name. For details refer to the use manual of your writing software.

Note:

- You may encounter trouble in playing MP3s or displaying the information of MP3 files recorded with certain writing softwares or CD recorders (CD-R/RW drives).

Caution:

- Never assign the ".mp3" file name extension to a file that is not in the MP3 format. This may not only produce noise from the speakers and speaker damage, but can damage your hearing.

Note:

- MP3 encode software and writing software are not supplied to this model.

❒ Maximum Number of Files/Folders

- Maximum number of trees: 8
- Maximum number of files/folders: 254 (files+folders. Root folder is not included.)

Note:

- If the total of files and folders exceeds 254, successful playback may not be performed.

❒ Supported File Systems and File Names

Supported file system	Displayable folder names and file names
ISO 9660 Level 1	**Name file and folders in accordance with the standard of each file system. Refer to the instructions of writing software for details.** ● This player can display file names of up to 31 ASCII character set in scroll mode. *Up to 15 letters can be displayed when scrolling in the Joliet systems. According to the standard, "á", "ç", etc. can be used. ● Characters that the player cannot display are shown as an asterisk.
ISO 9660 Level 2	
Joliet*	
Romeo	
Apple Extension to ISO 9660	

Glossary

ISO 9660
The most common international standard for the logical format for files and directories.

APPLE HFS
The file system used by the Macintosh operating system to organize data. **(Not supported)**

Multi-session
A method of adding data incrementally to a CD-R or CD-RW in more than one recording session.

Disc-at-Once
A method of writing data in a media by just one operation and no more writing after that.

ID3Tag
A function that allows character information (title, artist, album title, date, etc) to be written onto the disc. Discs written with ID3 Ver. 2 may not work properly. **(Not supported)**

Packet writing
A method of writing data on a CD media in small increments. **(Not supported)**

ASCII character set
ASCII character set consisting of A to Z, a to z, digits 0 to 9, and the following symbols: (space) ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ^ _ ` { | } ~

❒ Copyright

It is prohibited by copyright laws to copy, distribute and deliver copyrighted materials such as music without the approval of copyright holder except enjoying yourself personally.

Troubleshooting

Preliminary Steps

Check and take steps as described in the tables below.

If You Suspect Something Wrong

Immediately switch the power off.
Disconnect the power connector and check that there is neither smoke nor heat from the unit before asking for repairs. Never try to repair the unit yourself because it is dangerous to do so.

Caution:
- Do not use the unit if it malfunctions or is something wrong.
- Do not use the unit in abnormal condition, for example, without sound, or with smoke or foul smell, which can cause ignition or electric shock. Immediately stop using it and call the store where you purchased it.

Troubleshooting Tips

❒ Common

Trouble	Cause/Step
No power.	Car's engine switch is not on. ➡**Turn your car's ignition switch to ACC or ON.**
	Cables are not correctly connected. ➡**Connect cables correctly.**
	Battery cable is not correctly connected. ➡**Connect the battery cable to the terminal that is always active.**
	Accessory cable is not correctly connected. ➡**Connect the accessory cable to your car's ACC source.**
	Grounding wire is not correctly connected. ➡**Connect the grounding wire to a metal part of the car.**
	Fuse is burnt out. ➡**Call the store where you purchased the unit, or your nearest Servicenter (see the attached sheet) and ask for fuse replacement.**
No sound.	Mute is set to ON. ➡**Set it to OFF.**
	Cables are not correctly connected. ➡**Connect cables correctly.**
	Condensation (dew). ➡**Wait for a while before use.**
Only sound, no display.	The display shows "display and light off". ➡**Press [DISP] (display) to change the display.**
Noise.	A mobile phone is used near the unit. ➡**Keep the mobile phone away from the unit.**
Audio sound is output but the display shows demonstration message.	Demonstration mode is ON. ➡**Press [DISP] (display) to cancel demonstration mode.**

❒ Radio

Trouble	Cause/Step
Too much noise in FM stereo and monaural broadcasts.	Station is too far, or signals are too weak. ➡**Select other stations of higher signal level.**
	The motor antenna relay control lead is not connected correctly. ➡**If there is a motor antenna in the car, connect the motor antenna relay control lead to the motor antenna lead that is installed in the car correctly.**
	The radio antenna is not extended enough. ➡**Fully extend the radio antenna.**
Preset station is reset.	Battery cable is not correctly connected. ➡**Connect the battery cable to the terminal that is always active.**

❒ CD

Trouble	Cause/Step
Disc is in the CD compartment but no sound is made, or disc is ejected automatically.	Disc is upside down. ➡**Place disc in the correct direction with the label side up.**
	● Disc is dirty. ● Disc has scratches. ➡**Clean disc, referring to the section on "Notes on CD/CD Media (CD-ROM, CD-R, CD-RW)".**
	3″ (8 cm) disc is ejected automatically.
	A disc that has data other than CD-DA or MP3 type is played. ➡**Discs that have CD-DA type data should be used.**
	➡**The unit may not successfully play back a CD-R/RW that was made by the combination of writing software, a CD recorder (CD-R/RW drive) and a disc if they are incompatible one another. Refer to instructions for the concerned devices for details.**
Sound skips, bad sound quality. (e.g. caused by noise)	● Disc is dirty. ● Disc has scratches. ➡**Clean disc, referring to the section on "Notes on CD/CD Media (CD-ROM, CD-R, CD-RW)".**
	➡**The unit may not successfully play back a CD-R/RW that was made by the combination of writing software, a CD recorder (CD-R/RW drive) and a disc if they are incompatible one another. Refer to instructions for the concerned devices for details.**

Troubleshooting (Continued)

❒ CD (Continued)

Trouble	Cause/Step
Sound skips due to vibration.	Mounting angle is over 30°. ➡**Adjust mounting angle to less than 30°.**
	Instable mounting. ➡**Mount the unit securely with the mounting parts, referring to the section on installation.**
Disc is not ejected.	● Disc is defective. ● Mechanical trouble. ➡**Press [OPEN] to open the panel and press [⏏] (eject). If normal operation is not restored, call the store where you purchased the unit or the nearest Servicenter to ask for repairs.**
CD text is not displayed normally.	Disc is dirty, or has scratches. ➡**Clean disc, referring to the section on "Notes on CD/CD Media (CD-ROM, CD-R, CD-RW)".**
Time is counted but no sound comes out.	The first track of a mix mode disc was reproduced. (Mix mode is a format in which data except music is recorded on the first track and music data is recorded on other than the first track in a session.) ➡**Play back music data recorded on other than the first track.**

❒ MP3

Trouble	Cause/Step
No playback.	The disc does not conform to any of the file systems supported by this player. ➡**Insert a disc that conforms to the file systems supported by this player. For supported file systems see "Notes on MP3".**
	The MP3 fils is missing the ".mp3" file name extension. ➡**Make sure to add the ".mp3" extension to each MP3 file name.**
It takes too long for playback to start.	The folders and files recorded on the disc are layered too much. ➡**As checking of files takes longer in this case, do not record any unnecessary folders or files other than MP3s on the disc.**

❒ MP3 (Continued)

Trouble	Cause/Step
Poor recording quality, sound skipping.	➡**The recording quality differs depending on the encoding software used, and on settings such as the bit rate. Set the bit rate within the range specified in the specifications chart (➡ page 61).** **It is recommended to set the bit rate to "128 kbps or more" and "Fixed".**
	High-speed writing was executed when MP3 data was recorded on the disc. ➡**Decrease writing speed as low as possible.**
Files are not played in the desired order.	Files or folders are not recorded in the desired playback order. ➡**Some writing software lets you specify the recording order by adding a prefix in the range of "01"–"99", etc. to the file name. For details refer to the user manual of your writing software.**
Folder/file name is not displayed correctly.	The disc does not conform to the file systems supported by this player. ➡**Insert a disc that conforms to the file systems supported by this player. For supported file systems see "Notes on MP3".**
	➡**There may be a problem with your writing software or CD recorder (CD-R/RW drive). For details refer to the user manual of your writing software.**
File playing time is not displayed correctly.	You ran the file in fast forward or fast reverse during playback or turned off the ignition switch of the car during playback. ➡**Playing another file will return the file playing time to normal.**
	You played a VBR (Variable Bit Rate) format MP3 file. ➡**The file playing time of VBR (Variable Bit Rate) format MP3 file is sometimes displayed incorrectly.** **Discs written with ID3 Ver. 2 may not work properly.**

Troubleshooting (Continued)

❒ Sound Setting

Trouble	Cause/Step
No sound from left, right, front or rear speakers.	Left and right balance, or front and rear balance is off on one side. ➡**Adjust balance/fader setting as appropriate.**
	Cables are not correctly connected. ➡**Connect the cables correctly.**
Left and right sounds are reversed in stereo listening.	The right speaker wire is connected to the left speaker and the left speaker wire to the right speaker. ➡**Connect the speaker wires to the correct ones.**

❒ Remote Control Unit

Trouble	Cause/Step
Buttons are invalid for operation.	Battery polarities are reversed. ➡**Insert the battery correctly.**
	Wrong the battery. ➡**Check the battery.**
	The battery has run down. ➡**Replace the battery.**
	Remote control unit is in the wrong direction. ➡**Direct the remote control unit at sensor on the front panel.**

Error Display Messages

❒ CD/MP3

Display	Cause/Step
-E1- CD EJECT Power off	● Disc is dirty, or is upside down. ● A disc that has data other than CD-DA or MP3 type is loaded. ➡ **Check disc.**
-E2- CD EJECT Power off	Disc has scratches. ➡ **Check disc.**
-E3- CD EJECT Power off	No operation by some cause. ➡**If normal operation is not restored, call the store where you purchased the unit or the nearest Servicenter to ask for repairs.**
-E4-	When there is no MP3 files in the specified folder during direct MP3 folder selection. ➡**Select another folder which contains MP3 files.**
	The player for some reason cannot read the file you are trying to play. (File recorded in an unsupported file system, compression scheme, data format, file name extension, damaged data, etc.) ➡**Select a file that the player can read. Confirm the type of data recorded on the disc. Create a new disc if necessary.**

Troubleshooting (Continued)

❒ CD Changer

Display	Cause/Step
-E1-	● Disc is dirty, or is upside down. ● A disc other than a music CD (CD-DA type) is loaded. ➡ **Check disc. (The changer automatically switches to the next disc.)**
-E2-	Disc has scratches. ➡ **Check disc. (The changer automatically switches to the next disc.)**
-E3- ↓ **Power off**	No operation by some cause. ➡**If normal operation is not restored, call the store where you purchased the unit or the nearest Servicenter to ask for repairs.** The display continues if you cannot switch off the power.
NO DISC	No disc is in the changer (magazine). ➡**Insert discs into the changer (magazine).**

Note:
● For details, refer to operating instructions for the changer used.

Maintenance

Your product is designed and manufactured to ensure a minimum of maintenance. Use a dry, a soft cloth for routine exterior cleaning. Never use benzine, thinner or other solvents.

Product Servicing

If the suggestions in the charts do not solve the problem, we recommend that you take it to your nearest authorized Panasonic Servicenter. The product should be serviced only by a qualified technician.

Replacing the Fuse

Use fuses of the same specified rating (15 A). Using different substitutes or fuses with higher ratings, or connecting the unit directly without a fuse, could cause fire or damage to the stereo unit.
If the replacement fuse fails, contact your nearest Panasonic Servicenter for service.

Maintenance

Care of the Unit

❒ Cleaning this Unit

Use a dry, soft cloth to wipe.

❒ Caution on Cleaning

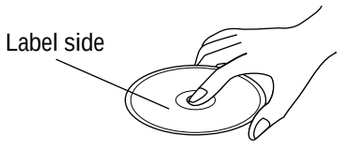
Never use solvents such as benzine, thinner as they may mar the surface of the unit.

Notes on CD/CD Media (CD-ROM, CD-R, CD-RW)

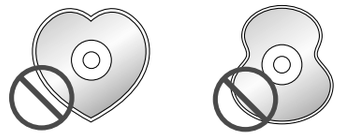
Do not play any ordinary music CDs with labels other than this one.

COMPACT disc DIGITAL AUDIO

How to hold the disc
● Do not touch the underside of the disc.
● Do not scratch the discs.
● Do not bend disc.
● When not in use, keep the disc in the case.



Do not use irregular shaped discs.

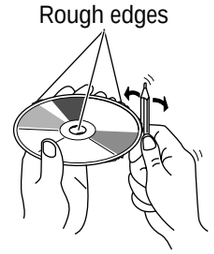


Do not use irregular shaped discs.

Do not leave discs on the following places:
● Direct sunlight
● Near car heaters
● Dirty, dusty and damp areas
● Seats and dashboards

Disc cleaning
Use a dry, soft cloth to wipe from the center outward.

Caution on new discs
A new disc may have rough edges on its inner and outer perimeter. These may cause malfunction.
Remove the rough edges using a pencil, etc.



Do not attach any seals or labels to your discs.

Do not write on the disc label in a heavy pen or ballpoint pen stroke.

Notes on CD-Rs/RWs

● You may have trouble playing back some CD-R/RW discs recorded on CD recorders (CD-R/RW drives), either due to their recording characteristics or dirt, fingerprints, scratches, etc. on the disc surface.
● CD-R/RW discs are less resistant to high temperatures and high humidity than ordinary music CDs. Leaving them inside a car for extended periods may damage them and make playback impossible.
● The unit may not successfully play back a CD-R/RW that was made by the combination of writing software, a CD recorder (CD-R/RW drive) and a disc if they are incompatible one another.
● This player cannot play the CD-R/RW discs if the session is not closed.
● This player cannot play the CD-R/RW discs which contains other than CD-DA or MP3 data (video CD, etc.).
● Be sure to observe the instructions of CD-R/RW disc for handling it.

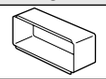
Installation Guide

WARNING

This installation information is designed for experienced installers and is not intended for non-technical individuals. It does not contain warnings or cautions of potential dangers involved in attempting to install this product.

Any attempt to install this product in a motor car by anyone other than qualified installer could cause damage to the electrical system and could result in serious personal injury or death.

❒ Installation Hardware

No.	Item	Diagram	Q'ty
①	Mounting collar		1
②	Hex. nut (5 mmϕ)		1
③	Rear support strap		1
④	Tapping screw (5 mmϕ × 16 mm)		1
⑤	Mounting bolt (5 mmϕ)		1
⑥	Power connector		1
⑦	Removable face plate case		1
⑧	Trim plate		1
⑨	Lock cancel plate		2

❒ Overview

This product should be installed by a professional. However, if you plan to install this product yourself, your first step is to decide where to install it. The instructions in these pages will guide you through the remaining steps:

(Please refer to the "WARNING" statement above.)

- Identify and label the car wires.
- Connect the car wires to the wires of the power connector.
- Install the unit in the dashboard.
- Check the operation of the unit.

If you encounter problems, please consult your nearest professional installer.

Caution:

- This unit operates with a 12 V DC negative ground auto battery system only. Do not attempt to use it in any other system. Doing so could cause serious damage.

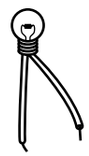
Before you begin installation, look for the items which are packed with your unit.

- **Warranty Card**…Fill this out promptly.
- **Panasonic Servicenter List for Service Directory** …Keep for future reference in case the product needs servicing.
- **Installation Hardware**…Needed for in-dash installation.

❒ Required Tools

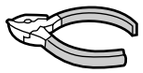
You'll need a screwdriver, a 1.5 V AA battery, and the following:

12 V DC Test bulb



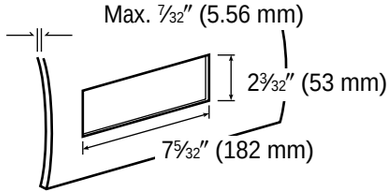
Electrical tape

Side-cut pliers



❒ Dashboard Specifications

Thickness Min. 3/16″ (4.75 mm)
Max. 7/32″ (5.56 mm)



❒ Identify All Leads

The first step in installation is to identify all the car wires you'll use when hooking up your sound system.

As you identify each wire, we suggest that you label it using masking tape and a permanent marker. This will help avoid confusion when making connections later.

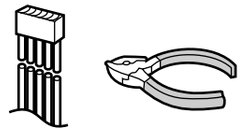
Note:

- Do not connect the power connector to the stereo unit until you have made all connections. If there are no plastic caps on the stereo hooking wires, insulate all exposed leads with electrical tape until you are ready to use them. Identify the leads in the following order.

Power Lead

If your car has a radio or is pre-wired for one:

Cut the connector wires one at a time from the plug (leaving the leads as long as possible) so that you can work with individual leads.



Turn the ignition on to the accessory position, and ground one lead of the test bulb to the chassis.

Touch the other lead of the test bulb to each of the exposed wires from the cut radio connector plug. Touch one wire at a time until you find the outlet that causes the test bulb to light.

Now turn the ignition off and then on. If the bulb also turns off and on, that outlet is the car power lead.

If your car is not wired for an audio unit:

Go to the fuse block and find the fuse port for radio (RADIO), accessory (ACC), or ignition (IGN).

Battery Lead

If your stereo unit has a yellow lead, you will need to locate the car's battery lead. Otherwise you may ignore this procedure. (The yellow battery lead provides continuous power to maintain a clock, memory storage, or other function.)

If your car has a radio or is pre-wired for one:

With the ignition and headlights off, identify the car battery lead by grounding one lead of the test bulb to the chassis and checking the remaining exposed wires from the cut radio connector plug.

If your car is not wired for an audio unit:

Go to the fuse block and find the fuse port for the battery, usually marked BAT.

Speakers

Identify the car speaker leads. There are two leads for each speaker which are usually color coded.

A handy way to identify the speaker leads and the speaker they are connected with is to test the leads using a 1.5 V AA battery as follows.

Hold one lead against one pole of the battery and stroke the other lead across the other pole. You will hear a scraping sound in one of the speakers if you are holding a speaker lead.

If not, keep testing different lead combinations until you have located all the speaker leads. When you label them, include the speaker location for each.

Antenna Motor

If your car is equipped with an automatic power antenna, identify the car motor antenna lead by connecting one bulb tester lead to the car battery lead and touching the remaining exposed wires from the cut radio connector plug one at a time. You will hear the antenna motor activate when you touch the correct wire.

Antenna

The antenna lead is a thick, black wire with a metal plug at the end.

❒ Connect All Leads

Now that you have identified all the wires in the car, you are ready to begin connecting them to the stereo unit wires. The wiring diagram (➡ page 58) shows the proper connections and color coding of the leads.

We strongly recommend that you test the unit before making a final installation.

You can set the unit on the floor and make temporary connections to test the unit. Use electrical tape to cover all exposed wires.

Important:

- Connect the red power lead last, after you have made and insulated all other connections.

Ground

Connect the black ground lead of the power connector to the metal car chassis.

Installation Guide (Continued)

Speakers
Connect the speaker wires. See the wiring diagram (➡ page 58) for the proper hookups. Follow the diagram carefully to avoid damaging the speakers and the stereo unit.
The speakers used must be able to handle more than 50 W of audio power. If using an optional audio amplifier, the speakers should be able to handle the maximum amplifier output power. Speakers with low input ratings can be damaged. Speaker impedance should measure 4–8 Ω, which is typically marked on most speakers. Lower or higher impedance speakers will affect output and can cause both speaker and stereo unit damage.
Motor Antenna
Connect the car motor antenna lead to the dark blue motor antenna relay control lead.
(Do not confuse the antenna lead with blue/white stripe lead for a power amplifier.)
Battery
Connect the yellow battery lead to the correct radio wire or to the battery fuse port on the fuse block.
Antenna
Connect the antenna by plugging the antenna lead into the antenna receptacle.
Equipment
Connect any optional equipment such as an amplifier, according to the instructions furnished with the equipment. Leave about 12″ (30 cm) of distance between the speaker leads/amplifier unit and the antenna/antenna extension cord. Read the operating and installation instructions of any equipment you will connect to this unit.
Power
Connect the red power lead to the correct car radio wire or to the appropriate fuse port on the fuse block.
If the stereo unit functions properly with all these connections made, disconnect the wires and proceed to the final installation.

❒ Final Installation

Lead Connections
Connect all wires, making sure that each connection is insulated and secure. Bundle all loose wires and fasten them with tape so they will not fall down later. Now insert the stereo unit into the mounting collar.

Congratulations! After making a few final checks, you're ready to enjoy your new auto stereo system.

❒ Final Checks

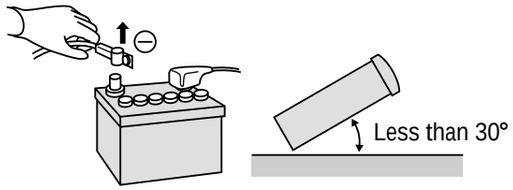
1. Make sure that all wires are properly connected and insulated.
2. Make sure that the stereo unit is securely held in the mounting collar.
3. Turn on the ignition to check the unit for proper operation.

If you have difficulties, consult your nearest authorized professional installer for assistance.

❒ Preparation

- We strongly recommend that you wear gloves for installation work to protect yourself from injuries.
- When bending the mounting tabs of the mounting collar with a screwdriver, be careful not to injure your hands and fingers.

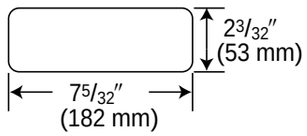
- Disconnect the cable from the negative ⊖ battery terminal (see caution below).
- Unit should be installed in a horizontal position with the front end up at a convenient angle, but not more than 30°.



Caution:
- Do not disconnect the battery terminals of a car with a trip or navigational computer since all user settings stored in memory will be lost. Instead take extra care with installing the unit to prevent shorts.

Dashboard Installation

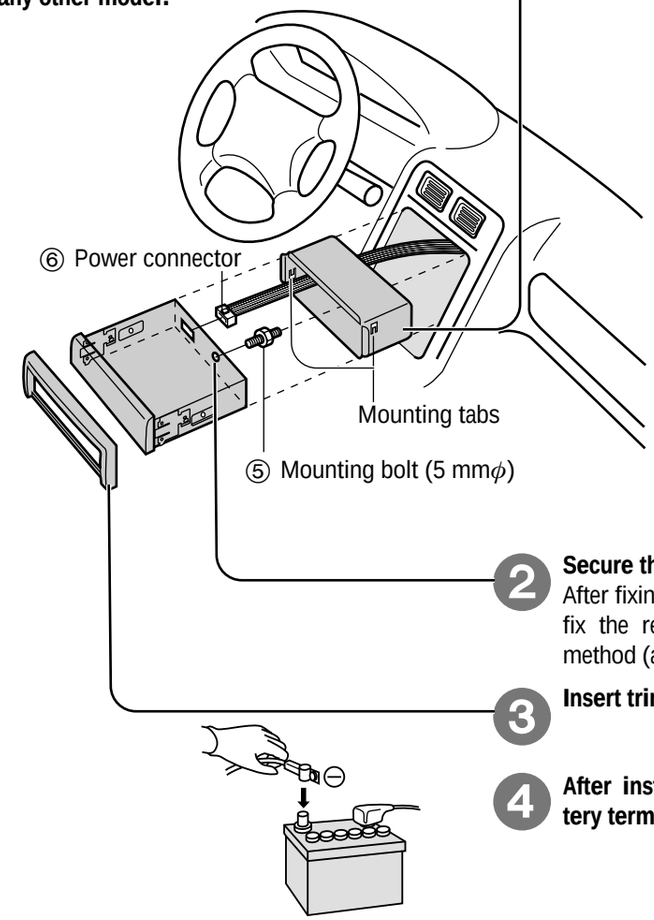
Installation Opening



This unit can be installed in any dashboard having an opening as shown above. The dashboard should be 3/16″ (4.75 mm)—7/32″ (5.56 mm) thick in order to be able to support the unit.

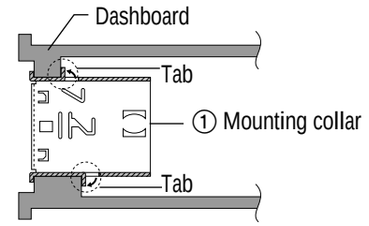
❒ Installation Procedures

First complete the electrical connections, and then check them for correctness. (➡ page 58)
The included mounting collar ① is designed specially for this unit. Do not use it to attach any other model.



1 **Insert mounting collar ① into the dashboard, and bend the mounting tabs out with a screwdriver.**

Fastening the mounting collar
The tabs to be bent vary depending on the car. Bend them with a screwdriver to fasten the mounting collar ① securely in the dashboard.



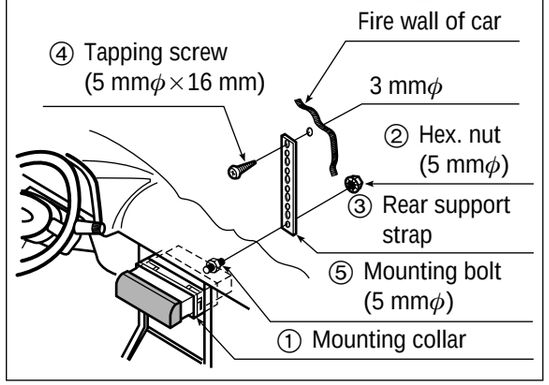
Note:
- To securely install the unit, fully bend a number of the tabs so that there is no rattling.
- Be sure to fasten the unit securely when joining it with the mounting collar ①.

2 **Secure the rear of the unit.**
After fixing mounting bolt ⑤ and power connector ⑥, fix the rear of the unit to the car body by either method (a) or (b) shown below.

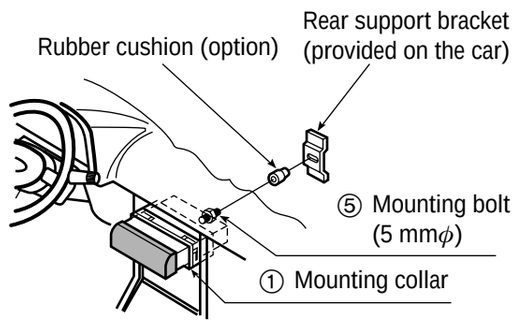
3 **Insert trim plate ⑧.**

4 **After installation, reconnect the negative ⊖ battery terminal.**

(a) Using the rear support strap ③



(b) Using the rubber cushion (option)



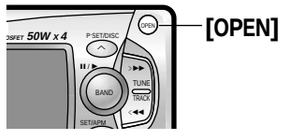
Installation Guide (Continued)

Remove the Unit

Switch off the power of the unit.

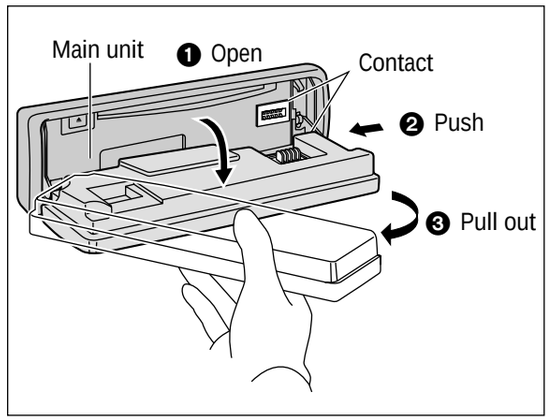
1 **Remove the removable face plate.**

❶ Press **[OPEN]**. The removable face plate will be opened.

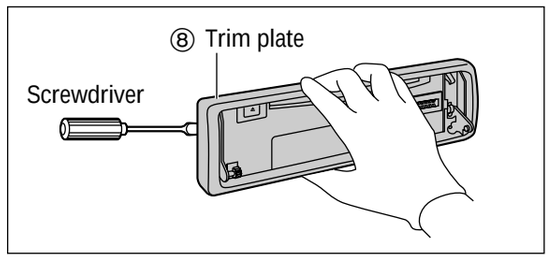


❷ Push the face plate to the left.

❸ Pull it out toward you.

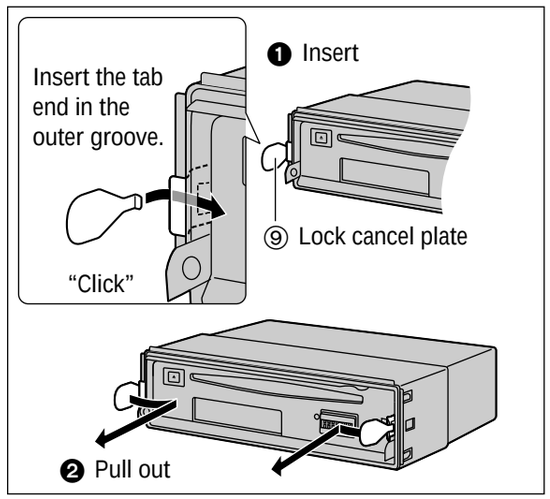


2 **Remove the trim plate ⑧ with a screwdriver.**

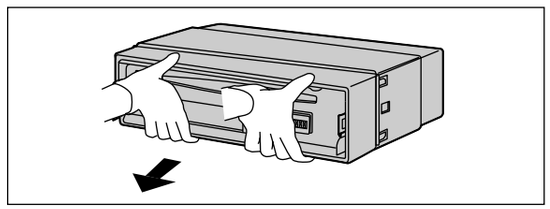


3 **❶ Insert the lock cancel plates ⑨ along the grooves on both sides of the main unit until "click" is heard.**

❷ Pull out the unit while pushing the plates further inside.



4 **Remove the unit pulling with both hands.**



Anti-Theft System

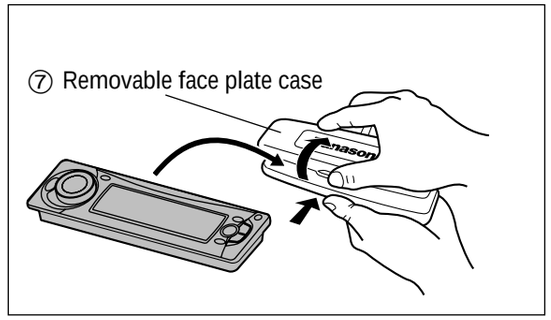
This unit is equipped with a removable face plate. Removing this face plate makes the radio totally inoperable. The security indicator will blink.

Place the Removable Face Plate into Case

❶ Switch off the power of the unit.

❷ Remove the removable face plate. (➡ page 56)

❸ Gently press the bottom of the case and open the cover. Place the face plate into the case and take it with you when you leave the car.

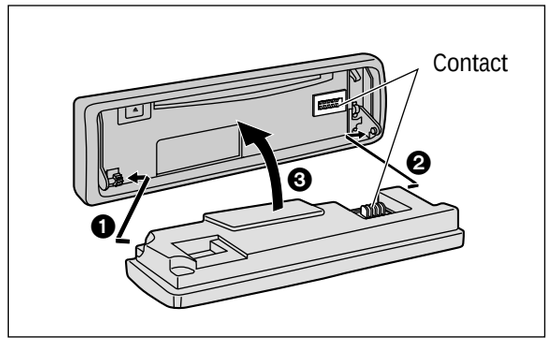


Install Removable Face Plate

❶ Fit the face plate with its left hole on one of the pins provided on the main unit.

❷ Fit the other hold on the other pin applying slight pressure.

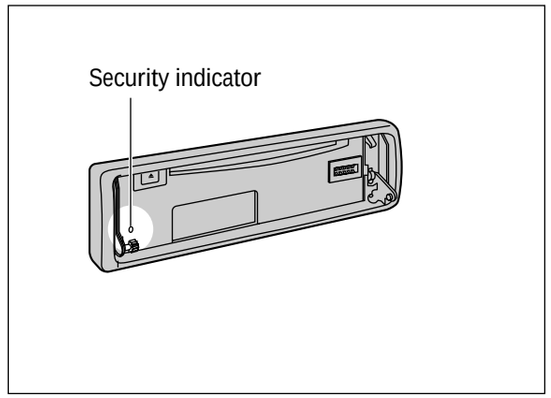
❸ Move the face plate up and down a few times to make sure it is secure. Then close the front panel and press down the right side of the face plate until it clicks into plate.



Security Indicator

The security indicator blinks when the removable face plate is removed from the unit.

Active the security function in the function settings. (➡ page 40)



Panel Removal Alarm

This alarm sounds to warn you not to forget to remove the panel before leaving your car. This function is activated when the security indicator is on.

Caution:

- This face plate is not waterproof. Do not expose it to water or excessive moisture.
- Do not remove the face plate while driving your car.
- Do not place the face plate on the dashboard or nearby areas where the temperature rises to high level.
- Do not touch the contacts on the face plate or the main unit, since this may result in poor electrical contacts.
- If dirt or other foreign substances get on the contacts, wipe them off with a clean and dry cloth.
- To avoid damaging the front panel, do not push it down or place objects on it while it is open.

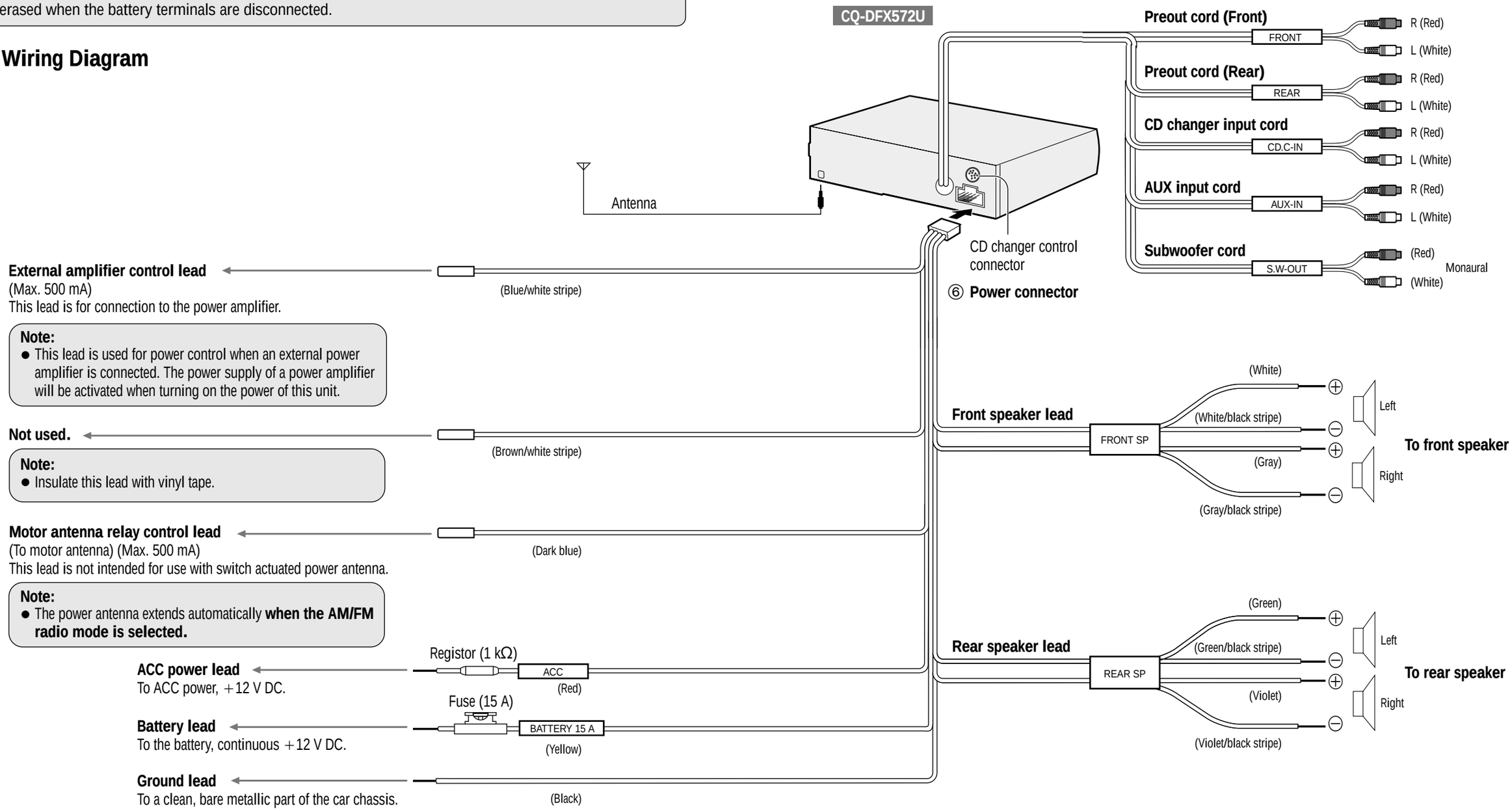
Electrical Connections

Caution:
- This product is designed to operate with a 12 V DC, negative ground battery system.
- To prevent damage to the unit, be sure to follow the connection diagram below.
- Remove approximately ¼″ (5 mm) of protective covering from the ends of the leads before connecting.
- Do not insert the power connector into the unit until the wiring is completed.
- Be sure to insulate any exposed wires from a possible short-circuit from the car chassis. Bundle all cables and keep cable terminals free from touching any metal parts.
- Remember, if your car has a drive computer or a navigation computer, the data of its memory may be erased when the battery terminals are disconnected.

Accessory used for wiring

No.	Item	Q'ty
⑥	Power connector	1

❒ Wiring Diagram

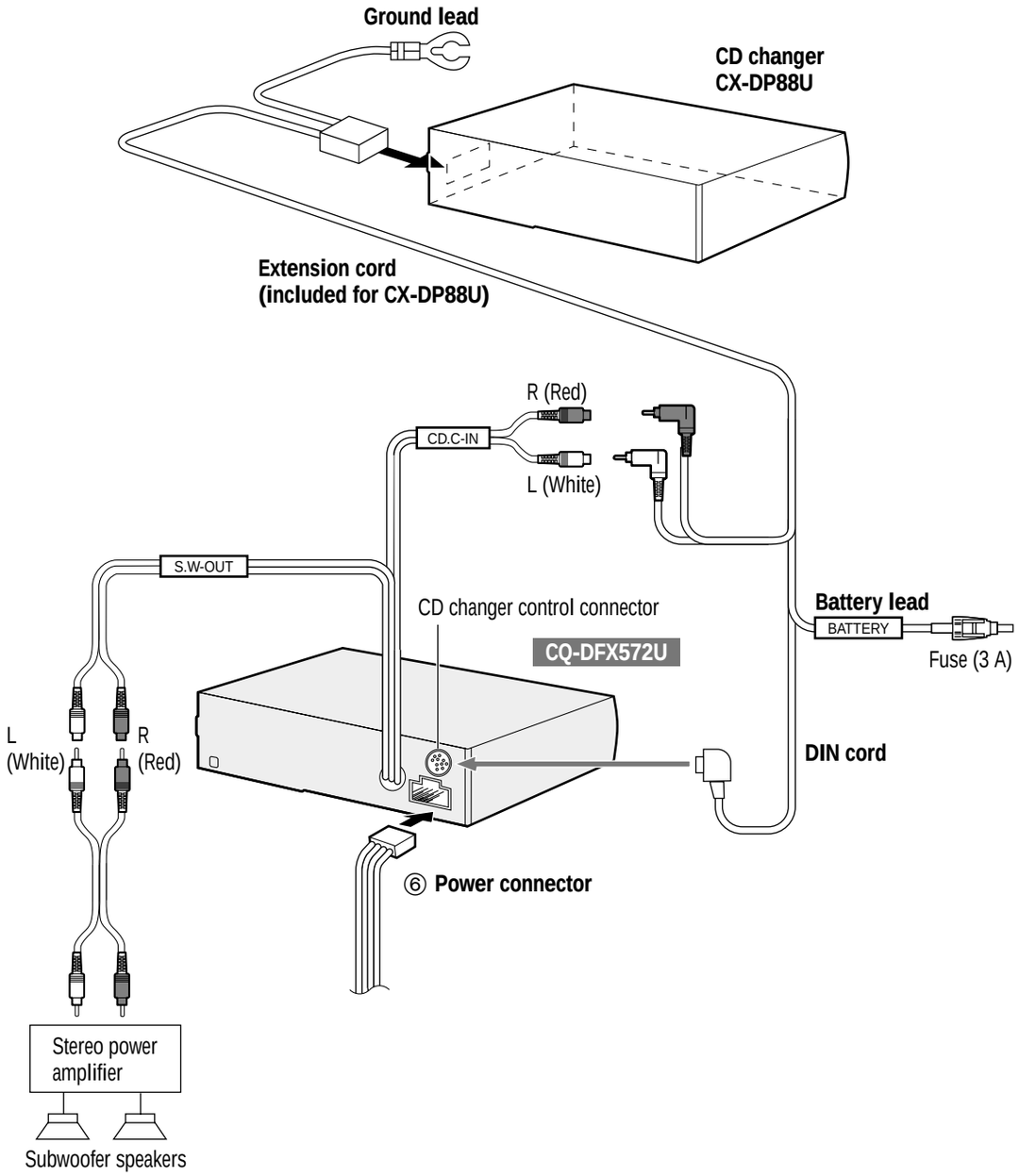


Electrical Connections (Continued)

❒ Upgrading the System

Example Combination
- CD changer (CX-DP88U, option)
- Stereo power amplifier

Note:
- For wiring, carefully read the operating instructions for the devices connected.



Specifications

❒ General

Power supply:	12 V DC (11 V—16 V), test voltage 14.4 V, negative ground
Current consumption:	Less than 2.2 A (CD play mode; 0.5 W×4 channels)
Maximum power output:	50 W×4 channels at 1 kHz, volume control maximum
Tone adjustment range:	
Bass:	±12 dB at 100 Hz
Treble:	±12 dB at 10 kHz
Suitable speaker impedance:	4—8 Ω
Preamp output voltage:	2.5 V (CD play mode; 1 kHz, 0 dB)
Subwoofer output voltage:	2.5 V
Pre-Amp output impedance:	200 Ω
Subwoofer output impedance:	200 Ω
Dimensions (W×H×D):	7″×1 15/16″×5 7/8″ (178×50×150 mm)
Weight:	3 lbs. 8 oz (1.6 kg)

❒ FM Stereo Radio

Frequency range:	87.9 MHz—107.9 MHz
Usable sensitivity:	11.0 dBf. (1.25 µV, 75 Ω)
50 dB quieting sensitivity:	15.2 dBf. (1.6 µV, 75 Ω)
Frequency response:	30 Hz—15 kHz (±3 dB)
Alternate channel selectivity:	75 dB
Stereo separation:	35 dB (1 kHz)
Image response ratio:	75 dB
IF response ratio:	100 dB
Signal/noise ratio:	70 dB

❒ AM Radio

Frequency range:	530 kHz—1 710 kHz
Usable sensitivity:	29 dB/µV (25 µV, S/N 20 dB)

❒ CD Player

Sampling frequency:	8 times oversampling
DA converter:	MASH·1 bit/4 DAC system
Error correction system:	Panasonic super decoding algorithm
Pick-up type:	Astigma 3-beam
Light source:	Semiconductor laser
Wave length:	780 nm
Frequency response:	20 Hz—20 kHz (±1 dB)
Signal/noise ratio:	96 dB
Total harmonic distortion:	0.01 % (1 kHz)
Wow and flutter:	Below measurable limits
Channel separation:	75 dB
MP3 decoding:	MPEG 1 Audio Layer 3/MPEG 2 Audio Layer 3
Bit rate:	(MPEG 1 Audio Layer 3) 32 kbps—256 kbps, VBR (Variable Bit Rate)
	(MPEG 2 Audio Layer 3) 16 kbps—160 kbps, VBR (Variable Bit Rate)
Sampling frequency:	(MPEG 1 Audio Layer 3) 32 kHz, 44.1 kHz, 48 kHz
	(MPEG 2 Audio Layer 3) 22.05 kHz, 24 kHz

Above specifications comply with EIA standards.

Note:
- Specifications and the design are subject to modification without notice due to improvements in technology.

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